The Wichita State University

Undergraduate Catalog
1988-89
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Undergraduate Catalog 1988-89

This Catalog is a guide for information only and is not a contract. It becomes effective March 1, 1988.

The official University address is The Wichita State University, Wichita, Kansas 67208-1595. The general University telephone number is (316) 689-3456. For admission information, call toll-free (800) 362-2594.

Produced by the Office of University Communications
Ellen Horn, Editor
### Academic Calendar for 1988-89

**Summer Session 1988**

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event</th>
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<tbody>
<tr>
<td>May 23-June 10</td>
<td>Presession and workshops</td>
</tr>
<tr>
<td>May 30</td>
<td>Memorial Day, holiday</td>
</tr>
<tr>
<td>June 2-3</td>
<td>Summer Session registration</td>
</tr>
<tr>
<td>June 6</td>
<td>Classes begin</td>
</tr>
<tr>
<td>July 1</td>
<td>Final day of first four-week term; registration for second four-week term</td>
</tr>
<tr>
<td>July 4</td>
<td>Independence Day, holiday</td>
</tr>
<tr>
<td>July 5</td>
<td>Second four-week term classes begin</td>
</tr>
<tr>
<td>July 29</td>
<td>Summer Session closes</td>
</tr>
</tbody>
</table>

**Fall Semester**

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 15-19</td>
<td>Fall semester registration</td>
</tr>
<tr>
<td>August 22</td>
<td>Classes begin</td>
</tr>
<tr>
<td>September 3-5</td>
<td>Labor Day, holiday</td>
</tr>
<tr>
<td>October 14</td>
<td>Midterm point</td>
</tr>
<tr>
<td>October 28</td>
<td>Final date for withdrawal with nonpenalty grades</td>
</tr>
<tr>
<td>November 14-22</td>
<td>Preregistration period for spring semester. Exact dates to be published in the Schedule of Courses</td>
</tr>
<tr>
<td>November 23-26</td>
<td>Thanksgiving recess</td>
</tr>
<tr>
<td>December 8</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>December 9</td>
<td>Study day</td>
</tr>
<tr>
<td>December 10-16</td>
<td>Final examinations</td>
</tr>
</tbody>
</table>

**Spring Semester 1989**

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 9-14</td>
<td>Spring semester registration</td>
</tr>
<tr>
<td>January 16</td>
<td>Classes begin</td>
</tr>
<tr>
<td>March 10</td>
<td>Midterm point</td>
</tr>
<tr>
<td>March 12-18</td>
<td>Spring recess</td>
</tr>
<tr>
<td>March 20</td>
<td>Classes resume</td>
</tr>
<tr>
<td>March 31</td>
<td>Final date for withdrawal with nonpenalty grades</td>
</tr>
<tr>
<td>April 16</td>
<td>Honors Convocation</td>
</tr>
<tr>
<td>April 17-25</td>
<td>Preregistration period for fall semester. Exact dates to be published in the Schedule of Courses</td>
</tr>
<tr>
<td>May 8</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>May 9</td>
<td>Study day</td>
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<tr>
<td>May 10-16</td>
<td>Final examinations</td>
</tr>
<tr>
<td>May 17</td>
<td>Semester ends</td>
</tr>
<tr>
<td>May 20</td>
<td>Commencement</td>
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**Summer Session 1989**

<table>
<thead>
<tr>
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<td>Memorial Day, holiday</td>
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<tr>
<td>June 1-2</td>
<td>Summer Session registration</td>
</tr>
<tr>
<td>June 5</td>
<td>Classes begin</td>
</tr>
<tr>
<td>June 30</td>
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<tr>
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<td>Second four-week term classes begin</td>
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<tr>
<td>July 4</td>
<td>Independence Day, holiday</td>
</tr>
<tr>
<td>July 28</td>
<td>Summer Session closes</td>
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General Information

1988-89 University and Academic Officers

Warren B. Armstrong, President of the University
Joyce A. Scott, Executive Vice President for Academic Affairs and Dean of Faculties
Martin H. Bush, Vice President for Academic Resource Development
Roger D. Lowe, Vice President for Administration and Finance
Robert F. Hartsough, Vice President for Development, Alumni and University Relations and Executive Vice President of the Board of Trustees
Averett S. Tombes, Vice President for Research and Dean of Graduate Studies
James J. Rhatigan, Vice President for Student Affairs and Dean of Students
Douglas Sharp, Dean of the College of Business Administration
Robert L. McCroskey, Interim Dean of the College of Education
William J. Wilhelm, Dean of the College of Engineering
Rhoda-Gale Pollack, Dean of the College of Fine Arts
M. Diane Roberts, Dean of the College of Health Professions
Phillip D. Thomas, Dean of Fairmount College of Liberal Arts and Sciences
Jacqueline J. Snyder, Dean of Continuing Education
Jasper G. Schad, Dean of Libraries
William W. Harmon, Dean of University College
Frederick Sudermann, Executive Assistant to the President and Director of Governmental Relations
Thomas E. Shupe, Director of Intercollegiate Athletics

Mission Statement

In December 1986, the Kansas Board of Regents approved the following mission statement for The Wichita State University:

The Wichita State University is an urban university with a focused mission intended to meet the industrial, business, educational, social and cultural needs of the greater Wichita area. The University’s primary goal is to serve citizens in the thirteen-county area surrounding Wichita and Sedgwick County, with special sensitivity to the large number of minority citizens residing in the urban area. Its urban student body is predominantly part-time and beyond the traditional college age, thus requiring special support services.

Programs of study in the liberal arts and sciences, fine arts, business, engineering, education and health and human services lead to the associate through the doctoral degree, but primary emphasis is at the baccalaureate and master’s level. Building on a foundation in the liberal arts and sciences, the institution's unique role resides in the delivery of programs in the visual and performing arts, engineering, business and education.

Terminal degrees currently approved are the Master of Fine Arts in studio arts and in creative writing; and the Doctor of Philosophy in applied mathematics, in chemistry, in communicative disorders and sciences and in engineering. At an appropriate time, the institution will pursue development of a joint doctoral degree with The University of Kansas and Kansas State University in computer science and freestanding doctoral degrees in educational administration and psychology.

Research activity will occur principally in those areas with existing terminal degrees and those identified for terminal degrees. Applied research related to industry in the service area is the major thrust of these activities.

Service activities such as those conducted at the Center for Economic Development and Business Research, the Center for Entrepreneurship, the Small Business Development Center, the Institute for Aviation Research and the Hugo Wall Center for Urban Studies are especially tailored to meet the needs of the institution’s service area.

Profile of The Wichita State University

The Wichita State University is distinguished from other state-supported schools in Kansas by its urban setting. Wichita State’s location in the largest city in Kansas enhances the traditional classroom experience by providing students greater opportunities in resources, contacts with business and government leaders, employment and internships.

With an enrollment of over 17,000, Wichita State prides itself on specialized attention to each student. Although the University’s students come from almost every state in the Union and 70 foreign countries, more than 90 percent are from Kansas, representing every county in the state.

Because of its urban setting, The Wichita State University has two side-by-side student bodies—traditional and nontraditional. The average student age is 28; about one-third are married and 52 percent work full- or part-time. Although the nontraditional students are in the majority, there are 6,700 traditional students, ages 18 to 23, who devote themselves full-time to school and campus activities.

The Wichita State University offers more than 70 undergraduate degree programs in more than 150 areas of study in six undergraduate colleges: W. Frank Barton School of Business, College of Education, College of Engineering, College of Fine Arts, College of Health Professions and Fairmount College of Liberal Arts and Sciences. The Graduate School offers an extensive program including 41 master’s degrees which offer study in more than 100 areas; specialist in education degrees; and doctoral degrees in applied mathematics, in chemistry, in communicative disorders and sciences, and in engineering. A complete listing of the programs and degrees offered at The Wichita State University is located on the inside back cover of the Catalog.

Committed to fulfilling the needs of each student, WSU offers the traditional fall and spring semesters; it has the largest number of evening and summer course offerings in the Kansas Board of Regents’ system. The summer session features a flexible time format with a three-week presession and two four-week sessions held concurrently with the regular eight-week session.

Board of Regents, State of Kansas

Donald C. Slawson, Chairman, Wichita
Norman W. Brandeberry, Russell
Robert A. Creighton, Atwood
Richard W. Dodderidge, Mission Woods
Norman W. Jeter, Hays
Shirley Palmer, Fort Scott
Richard R. Reinhardt, Erie
Richard P. Senecal, Atchison
Linwood Sexton, Sedgwick
Stanley Z. Koplik, Executive Director, Topeka
Although WSU's first commitment is to excellence in instruction, it has an equally strong commitment to excellence in research and public service as integral parts of its educational mission.

An important resource to the Wichita area business community, Wichita State supports research and development through programs such as the Center for Productivity Enhancement. The corporate community utilizes programs offered by the University's Center for Management Development for continuing professional development. The Center for Entrepreneurship and Small Business Management encourages development of small businesses, while the Hugo Wall Center for Urban Studies supports local and state government activities.

The 330-acre campus is modern and accessible and at the same time retains the flavor of the University's 90-year heritage. Fifty pieces of sculpture by internationally known artists adorn the campus. Personnages Oiseaux, a colorful mural created by the great Spanish artist Joan Miro, is displayed on the wall of the Edwin A. Ulrich Museum of Art. During the past 15 years, Wichita State has more than doubled its instructional space, adding major buildings for art, engineering, health sciences, biological sciences, physical education, dance and liberal arts and sciences.

One of the newest additions, completed in 1986, makes Media Resources Center the most comprehensive telecommunications facility in the state. Another part of this three-stage construction project is the expansion and renovation of Ablah Library scheduled for completion in 1989.

Architects are at work on five new buildings for the campus, all of which will be completed by the spring of 1989, some earlier. The projects are Devlin Hall, which will house the Center for Entrepreneurship; the Institute for Aviation Research, which will enhance the University's research association with the local aircraft industry; the K.T. and Mary Inez Woodman Alumni Center, which will be an office complex for the Endowment Association and Board of Trustees staff; a new complex for the physical plant; and a new golf course maintenance building.

More than 190 social and special interest clubs provide opportunities for students to meet and work with others who share their interests. Eight national sororities and 13 national fraternities are active on campus.

There are sports opportunities in tennis, cross-country, basketball, track, golf, crew, soccer and bowling for all students. Teams also are fielded in baseball for men and volleyball and softball for women.

History

Wichita State began as Fairmount College and was operated by the Congregational Church from 1895 until 1926 when by a vote of the citizens of Wichita, it became the first municipal university west of the Mississippi.

After 38 years as a municipal university, WSU again changed its status July 1, 1964, when it officially entered the state system of higher education. Now, The Wichita State University is one of six state universities governed by the Kansas Board of Regents.


Policies

Human Relations

It is the policy of The Wichita State University not to discriminate on the basis of race, color, religion, national origin, sex, age, disability or political affiliation in its education programs, activities or employment policies as required by the Civil Rights Act of 1964 and subsequent amendments (including Title IX of the Education Amendments of 1972), federal executive orders, federal regulations and guidelines and the State's Executive Order No. 75-9. The University is further committed to take affirmative action to assure that equality of opportunity shall exist. Questions concerning discrimination should be directed to James J. Rhatigan, vice president for student affairs and dean of students, Grace Wilkie Hall.

Student Responsibility

Students at The Wichita State University have the following responsibilities:

1. To consult their advisers on all matters pertaining to their academic careers, including changes in their programs
2. To observe all regulations of their college and select courses according to the requirements of that college
3. To attend all meetings of each class in which they are enrolled (instructors will announce at the beginning of the semester if they consider attendance in computing final grades)
4. To fulfill all requirements for graduation
5. To be personally responsible for fulfilling all requirements and observing all regulations at Wichita State
6. To answer promptly to all written notices from advisers, faculty, deans and other University officers
7. To file an Application for Degree card in the dean's office of the appropriate college at least two semesters before the expected date of graduation
8. To enroll in only those courses for which the stated prerequisite(s) (if there are any) have been satisfactorily completed. Failure to comply with this procedure may result in administrative withdrawal.

Students should also comply with the principles in the following statement, which was adopted by the Student Senate, the Faculty Senate and the Administrative Council of the University:

The Wichita State University reaffirms the principle of intellectual freedom in scholarly activity for University students, and it recognizes the full citizenship rights of students in inquiry, discussion and such actions as they may choose to take on public issues.

The rights and freedoms of students involve concomitant responsibilities. Incumbent on all students, as on all citizens, is the responsibility to observe the University's rules of orderly procedures and the laws of the larger community of which the University is a part. In the matter of actions on public issues, to speak one's opinion, to petition, to distribute literature, to assemble peacefully and hold meetings, to use the persuasion of ideas and other actions within the bounds of orderly and lawful procedures are sanctioned by the University. But infringement on the rights of others, acts or threats of violence to persons, destruction of property, disruption or other interference with the normal functioning of the University and its personnel and other disorderly and unlawful acts will not be countenanced.

Within its sphere of responsibilities the University will afford students proper procedural safeguards to resolve matters in dispute. Those who willfully violate these University standards must expect to face disciplinary action on the part of the institution, which may include repri-
mand, probation or suspension, consistent with campus provisions for due process.

Academic Honesty
Opportunities for learning at The Wichita State University involve the students' rights to express their views and to take reasoned exception to the views of faculty; to examine all questions felt to be appropriate to a course of study; to be protected from improper disclosure of their views and beliefs; to be examined in a fair and impartial manner; and to be treated with dignity and respect. Students are responsible, however, for learning the content of any course of study outlined by their instructors, regardless of any views or judgments privately held and for demonstrating their attainment in an honest manner.

Students who compromise the integrity of the classroom are subject to disciplinary action on the part of the University. Violations of classroom standards include:

1. Cheating in any form, whether in formal examinations or elsewhere
2. Plagiarism, using the work of others as one's own without assigning proper credit to the source
3. Misrepresentation of any work done in the classroom or in preparation for class
4. Falsification, forgery or alteration of any documents pertaining to academic records
5. Disruptive behavior in a course of study or abusiveness toward faculty or fellow students

A standard of honesty, fairly applied to all students, is essential to a learning environment. Students violating such standards must accept the consequences; penalties are assessed by appropriate classroom instructors or other designated persons. Serious cases may result in discipline at the college or university level and may result in suspension or dismissal. Students accused of abridging a standard of honesty may protect themselves through established academic appeal procedures and are assured of due process and the right of appeal from accusations or penalties felt to be unjust.

Open Records
Students may inspect and review their educational records maintained by Wichita State. According to law, the University is allowed 45 days to respond to the requests, but typically less time is required.

Students wishing to challenge the accuracy of their records are entitled to a hearing, upon written request to the dean of the college in which they are enrolled. The hearing is arranged by the dean.

Students may also receive the names of persons from outside the University who request access to their records and the reason for such requests. Similarly, students may also be informed of requests for records from individuals within the University who normally do not review students' education records.

Information in a student's records will not be released without his or her written permission.

Exceptions to these statements are noted in Public Law 93-380. A copy of the law is available to all students in the Division of Student Affairs, Grace Wilkie Hall.

Accident or Injury
The State of Kansas and The Wichita State University do not insure against accidents or injury to students which may occur during University-sponsored activities on or off campus. The University will make every reasonable attempt to advise students concerning potential danger of accident or injury. Students are expected to act responsibly by taking necessary precautions to prevent accidents. Students are also advised to protect themselves from the financial burden of accident or injury through a personal insurance policy.

Admission to Wichita State
Wichita State admits degree-bound college freshmen and transfer students as well as nondegree students who have special interests in college credit work but no immediate degree objectives at The Wichita State University.

All students entering Wichita State for the first time must file an application for admission with the Office of Admissions, 111 Jardine Hall, and all but special open admission students (discussed later) must have transcripts of all high school and/or college work sent to Wichita State. Failure to report all schools attended will result in dismissal.

Both the application and official transcripts of previous work should be received by the admissions office on or before August 1 for fall registration and January 1 for spring registration. Applications and transcripts from high school students will be accepted any time after their junior year and should be submitted during the first semester of their senior year.

Transcripts sent to the Office of Admissions must be mailed directly from the recording institution and will not be returned to the applicant. College transcripts brought by students cannot be accepted.

New students may begin their college study during the Summer Session, the fall semester or the spring semester. Prospective students are encouraged to visit Wichita State to discuss their educational plans with an admissions officer and other University staff members.

Admission of a student to The Wichita State University is independent of sex, race, physical handicap, ethnic background or creed.

Degree-Bound Students
Freshmen
Students who will graduate from accredited Kansas high schools and will not attend another college before coming to Wichita State will be admitted to the University as freshmen after submitting an application and a high school transcript. Scores from the test battery of the American College Testing Program (ACT) must also be submitted before enrollment. Application may be completed in one of two ways:

1. Students may apply by taking the American College Test (ACT) and having the results sent to Wichita State (college code 1472). Upon receipt of the ACT scores, the WSU admissions staff completes a copy of the application and sends the form to the students. The students must then verify the data on the application, sign it and give it to their high school counselor, who should attach a six-semester high school transcript and return the forms to Wichita State. A Certificate of Admission will then be mailed to the students.

2. Students may also apply by completing a regular University application for admission and having a six-semester transcript and ACT scores sent to the University.

Students who have already graduated from accredited Kansas high schools and have not attended another college will also be admitted to the University after submitting an application and having their high school send an official transcript to Wichita State's admissions office. ACT scores must also be submitted before enrollment. Graduates of nonaccredited Kansas high schools must submit acceptable ACT scores to be admitted to Wichita State.

Out-of-state students who will be or have been graduated from a non-Kansas high school must also submit application, transcript and ACT or SAT test scores. To be eligible for admission, out-of-state students must (1) rank in the upper one-half of their high school graduating class or (2) present acceptable ACT or SAT test scores or (3) have high
school grades of 2.000 or better on a 4.000 system. Exceptions may be made under special circumstances when valid reasons prevail. Priority of admission among out-of-state students is given to sons and daughters of Wichita State alumni.

Students who have not graduated from high school but have an equivalency certificate may apply by submitting an application for admission, a transcript showing any high school work completed and official scores from the General Educational Development (GED) test. ACT scores are also required if the student is admitted. Admission is based on the GED scores.

All entering freshmen are enrolled in University College. The orientation program will send all freshmen complete information about orientation and enrollment. See the University College section of the Catalog for more information.

Students in University College must meet the admissions standards of the degree-granting colleges before transferring into them. The individual college admissions requirements are given at the beginning of each college's section in the Catalog.

Transfers

Students who have been enrolled in another college or university may be admitted to undergraduate study at The Wichita State University if they are eligible to return to the college or university they last attended and are able to meet the required scholastic standards of Wichita State. Specific standards are given in each college's section of the Catalog.

Transfer students should apply at least one semester before the semester in which they plan to enter Wichita State in order to receive maximum consideration for financial aid and registration programs.

Transfer students are divided into two categories: (1) those with fewer than 24 college semester hours of credit or an undeclared major and (2) those with declared majors and 24 or more college semester hours of credit.

1. Transfer students with fewer than 24 college semester hours of credit or an undeclared major will be considered for admission to University College. Students must submit to Wichita State's Office of Admissions an application and an official transcript from their last high school and each college attended. Before enrollment, students must also submit scores from the American College Test (ACT). Further details on transferring to a degree-granting college are given in the University College section of this Catalog.

2. Transfer students who have declared a major and have 24 or more college semester hours of credit are eligible to apply for admission to one of the six undergraduate degree-granting colleges. They must submit an application and official transcript from each college or university attended to Wichita State's Office of Admissions.

Students transferring from a two-year college must complete at least 60 hours of four-year college work and 40 hours of upper-division work in order to qualify for graduation from Wichita State. In no case will work done in a two-year college be credited as junior- or senior-level work at Wichita State. (See requirements for graduation given under the Academic Information section.)

Wichita State participates in the Transfer and Articulation Agreement of the Kansas Public Community Colleges and State Colleges and Universities. The agreement stipulates that:

A student who completes an associate degree based on a baccalaureate oriented sequence at a state and regionally accredited Kansas public community college and whose program of studies has met the requirements of the Kansas Public Community College and State College and University Transfer and Articulation Agreement will be accepted with junior standing and will have satisfied the lower-division general education requirements of all Regents' institutions of the state (subject to points of clarification agreed to by community colleges and state schools).

In accepting college-level courses from other recognized colleges and universities for transfer credit, Wichita State relies on practices outlined in Transfer Credit Practices of Selected Educational Institutions, published by the American Association of Collegiate Registrars and Admissions Officers. While the credit practices publication does not constitute accreditation, it does provide helpful information for credit acceptance. Course equivalencies for selected institutions and other credit transfer information may be obtained from Wichita State's Office of Admissions.

Courses completed at other institutions but not acceptable for credit toward a degree at Wichita State are excluded from credit and grade point average evaluation.

Credit hours and credit points accepted toward a Wichita State degree are computed with credit hours and credit points earned at Wichita State in calculating the student's total grade point average.

The distribution of transfer courses that may fulfill either a major or minor requirement must be approved by the chairperson of the department concerned. Department chairpersons may require additional work for a major, regardless of the credit granted to the student.

International Students

Recognizing the benefits—cultural, economic, intellectual and social—that may arise from the interaction of American and foreign students and scholars, The Wichita State University demonstrates a commitment to international education through an admissions procedure devised for overseas applicants, the provision of an international student advisory office, the expansion of cross-cultural exchanges, the availability of intensive English, special courses within departments and international community services such as host family programs.

International students applying as undergraduates may be admitted to Wichita State according to the following guidelines:

1. They must be graduated from an accredited secondary school or have attended college with an acceptable record.

2. They must submit an international student application form and a non-refundable $25 international student processing fee.

3. They must present proof of proficiency in English. If an undergraduate applicant has not taken the Test of English as a Foreign Language (TOEFL) or if the score is below 530, the student must take a proficiency examination upon arrival on campus. Students who do not meet the required proficiency level will be required to enroll in the Intensive English program before enrolling in any academic classes. Instruction in Intensive English does not carry academic credit. After one semester of Intensive English, students may take another proficiency test. Those who pass may enroll in their academic program. Those who do not pass will continue enrollment in Intensive English.

4. They must have a statement of financial responsibility in an amount of $8,300 for the academic year or $4,200 for the summer (9 months). The minimum amount required for 12 months, including summer session enrollment, is $10,600. Summer enrollment is not required. All international students are considered nonresidents for tuition and fee purposes.

5. They must enroll in at least 12 credit hours at the undergraduate level or in at least nine credit hours at the graduate level.

Admission decisions for students with international secondary school or college records are made with reliance
upon the resource materials available through the American Association of Collegiate Registrars and Admissions Officers and the National Association for Foreign Student Affairs. International students with transfer work from American colleges must present at least 12 credit hours with at least a 2.25 grade point average (4.000 scale).

The University is committed to a policy of nondiscrimination and welcomes applications from students of all racial, religious, ethnic and cultural backgrounds. Admission decisions are based on the academic qualifications of applicants.

The University will not assume financial responsibility or guarantee monetary assistance for any student, including international students. It is the University's expectation that prospective and enrolled students have sufficient financial support immediately available to meet adequately the expenses of tuition, fees, books, room and board, etc.

The maintenance of adequate financial support is a condition for admission and continued enrollment of international students. Students who do not have financial support as specified on the I-20 form shall be subject to loss of student status.

No scholarships or grants are available to newly entering undergraduate international students, and it is imperative that they have sufficient funds to cover expenses while in the United States. International students who qualify for admission to the Graduate School may apply to their department chairperson or the dean of their college for information on graduate fellowships and assistantships.

The Wichita State University has a rolling admissions policy, which means that all applications are processed promptly as they are received. There are no application deadlines. However, students whose applications are received too late to permit processing for the term requested will be admitted for the following term. All required records and forms must be received in the Office of Admissions prior to admission. Students are expected to arrive and enroll at the University during registration week at the beginning of the term.

For further information or to obtain an application form, write:

Office of Admissions
111 Jardine Hall
The Wichita State University
Wichita, Kansas 67208-1595
Telephone: (316) 689-3085
Telex: 417423
Cable: UNIVERSITY

Graduate Students
Several categories of admission to The Wichita State University Graduate School are available. Students seeking a graduate degree must have at least a baccalaureate degree from a regionally accredited institution based on credits comparable to those allowed toward a degree by Wichita State, a minimum grade point average of 2.750 (on a 4.000 scale) in their last 60 hours of academic work and similar performance in their major field work, and no more than nine hours of background deficiencies in the major field of study. Individual departments and programs may require higher admission standards and additional supporting information. Students desiring to take work for graduate credit but not necessarily desiring to pursue a graduate degree may apply for admission in one of several nondegree categories depending upon their previous academic performance and goals. Specific requirements for all admission categories and for all programs are listed in The Wichita State University Graduate Bulletin.

Application for admission to graduate standing must be filed with the Graduate School three weeks before registration and must be supported by two complete and official transcripts of all college work (and other credentials required by the specific program desired) unless the student is a graduate of The Wichita State University, in which case the Graduate School personnel will obtain transcripts of the student's work completed at Wichita State.

Only students formally admitted to an appropriate status in the Graduate School are permitted to enroll in courses numbered 800 through 999, and no official status is given by the Graduate School until a student's application and transcripts are on file and the transcripts have been evaluated by the major department and the Graduate School. Students who wish to receive graduate credit for work taken must be admitted to the Graduate School prior to the time of enrollment.

Complete information about graduate programs and requirements is available in the Graduate School office, 107 Jardine Hall, (316) 689-3095.

Double-lining
Students who have accumulated a grade point average of less than 2.000 may petition the dean of University College and the University Committee on Admissions and Exceptions to be admitted to a degree program with no college credit and no grade point average.

To qualify, petitioners must be at least 25 years old, must have been out of a degree program of college studies for at least four years and must demonstrate ability to progress in college work.

If the petition is approved, all prior college courses and grades are recorded on the transcript, a double line is drawn and the notation "admitted without credits or grades by committee action" is made.

The policy may be applied to The Wichita State University enrollments as well as to work at other colleges. When implemented, the policy waives all previous credits and grades except in the case of credits and grades earned in the special nondegree-bound status under the open admission policy.

Nondegree-bound Students
Wichita State encourages students to pursue their educational goals. Persons wishing to continue their education with no immediate degree plans should apply and send copies of all college transcripts, or high school transcript if no college has been attended, to Wichita State's Office of Admissions. Students seeking graduate credit should write or call the Graduate School, 107 Jardine Hall, (316) 689-3095.

Open Admission Students
To expedite admission for adult students who have not participated in formal education for some time, the Office of Admissions provides a simplified admission procedure. Students will be admitted to the nondegree program as special open admission students:

1. If they graduated from an accredited high school, and have not attended any school for two years or
2. If they have not graduated from high school or completed a GED, are at least 21 years of age and have not attended any school for at least two years or
3. If they are currently on active military duty or
4. If they hold a baccalaureate or higher degree.

Students admitted under the open admission policy need only submit an application for admission. Test scores and transcripts are not required.

Students admitted as open admission students will be considered nondegree bound for their first 15 semester hours. In order to pursue work beyond the semester in which the 15th hour is completed, students will be required to sub-
mit transcripts and/or test scores to be accepted as degree-bound students in University College or in one of the degree-granting colleges of the University. Students may also elect to continue as regular nondegree students in University College.

Guest Students

Students attending another college or university who wish to attend Wichita State on a temporary basis in the Summer Session should submit an application to the Office of Admissions. Students applying for guest admission in the fall or spring semester must also submit an official transcript showing a 2.0 grade point average from their home institution. Guest admission is granted for a total of 15 semester hours and students who plan to continue at Wichita State beyond that limit must submit complete credentials. Students from other universities are usually enrolled as nondegree students in University College.

High school seniors who attend Wichita State before graduation from high school are also considered guest students. To be considered for admission as a high school guest student, students who have completed their junior year should submit an application and an official high school transcript and obtain their principal's permission to take college courses while still in high school. Younger students who wish to enroll for college work will be considered on an individual basis. The school principal's strong recommendation and a carefully prepared justification for enrollment is required before consideration is given.

International students on a student visa issued for another institution may be admitted as guest students at Wichita State providing they meet all criteria for admission outlined under the International Students section.

Residence Defined

The Kansas legislature, rather than University policy, determines the residence of students entering Wichita State. The legislature has also granted the Kansas Board of Regents certain authority to adopt regulations and guidelines for the determination of residence, within the broader state law. The law and regulations are different than those that govern residency for any other purpose.

According to the law and regulations, a resident, for tuition purposes, is someone who has resided (been physically present) in Kansas for 12 consecutive months prior to enrollment/re-enrollment and who has demonstrated, during those 12 months, the intent to make Kansas their permanent home. Intent is evaluated in light of: 1) the person's statement about why they came to Kansas in the first place and 2) what the person has done since coming to Kansas (objective, verifiable facts). Many factors are considered when evaluating intent. The Kansas Board of Regents guidelines list nonconclusive factors or circumstances that could help support a claim for resident classification. The guidelines also specify a qualifier: "Any such factor, to be given weight, must be of at least one year's duration prior to enrollment/re-enrollment.

A person who comes to Kansas to go to school, and who enrolls full-time every semester after arriving, may not be able to demonstrate the intent to remain in Kansas permanently, as long as that pattern continues. In contrast, certain "exceptions" are authorized by state law to pay the equivalent of resident fees: (a) employees of the University and their dependents, (b) persons on full-time active military duty, stationed in Kansas, and their dependents, (c) persons who have lost their Kansas resident status within six months of their enrollment, (d) persons who graduated from an accredited Kansas high school within 12 months of their enrollment at a state university; and (e) persons who were recruited to, or transferred to Kansas for a full-time job. The last exception requires certification by the employer on a special form, within 30 days after the semester begins. The form can be obtained from the Registrar's Office.

Residency of new students enrolling for the first time at Wichita State is determined by the admissions office according to the above law/regulations. Such students should address questions concerning residency to the admissions office. Continuing students should follow the procedure outlined below.

The responsibility of registering under proper residence is placed on the students. If there is any possible question of residence classification, it is the duty of a student when registering and paying fees to raise the question with the Registrar's Office. Students who disagree with their residency classification are entitled to an appeal, provided they file a written appeal with the registrar within 30 days from enrollment and pay the fees as originally assessed. A standard appeal form is provided by the Registrar's Office. If notice of the appeal is not given in writing within 30 days, the classification or reclassification by the registrar becomes final. Appeals are reviewed and decided by the Faculty Committee on Residency, and its decision is final. The committee is not empowered to make exceptions, just to apply the law and regulations to individual circumstances.

Students must report their correct address at the time of registration each semester. The address given must be the student's actual place of residence, since it will be the one to which all correspondence from Wichita State is sent. Any change in residence must be reported within three days to the Registrar's Office. More complete information on the residence law and regulations can be obtained from the Registrar's Office.

Academic Information

Registration

Specific information regarding registration is given in The Wichita State University Schedule of Courses published each semester and Summer Session. Students may not register after the second week of classes.

Falsification of information or withholding information pertinent to the records of the University is grounds for dismissal.

Classification of Students

Students are classified according to the following scheme:

- Freshmen: under 30 semester hours earned
- Sophomores: 30 to 59 semester hours earned
- Juniors: 60 to 89 semester hours earned
- Seniors: 90 semester hours or more earned

As a general rule, a student taking 12 hours during the fall or spring semester is considered a full-time student. For graduate students, nine hours are considered a full load. (Graduate students who are half-time teaching assistants are considered full time if they take six or more hours.) During the Summer Session, six hours are full time for both undergraduate and graduate students, with graduate teaching assistants full time with three hours.

In order to graduate with a bachelor's degree in eight semesters, a student must take an average of 16 credit hours per semester.

Meaning of Course Numbers

Courses numbered 99 or below do not count toward a baccalaureate program.

Courses numbered 100 to 299 are designed primarily for freshmen and sophomores, but students from other classes may be admitted for lower-division credit. Graduate students may not take these courses for graduate credit.

Courses numbered 300 to 499 are
taught primarily for juniors and seniors. Freshmen and sophomores may also be admitted if they satisfy the course prerequisites given in The Wichita State University Catalog. Graduate students may not take these courses for graduate credit.

Courses numbered 500 to 699 are aimed primarily at juniors and seniors, but graduate students may also receive graduate credit for these courses.

Courses numbered 700 to 799 are structured primarily for graduate students, but upper-division undergraduate students may be admitted if they meet course prerequisites.

Courses numbered 800 to 999 are designed for graduate students only and no students may be admitted to these courses unless they have been admitted to the Graduate School. (See the Catalog section on graduate credit for seniors for special conditions under which seniors may be admitted to graduate courses.)

The 11-digit number following each course description in the Catalog is for administrative use only.

Credit/No Credit Courses
Courses numbered below 100 do not carry credit toward a Wichita State degree and are graded Credit/No Credit (Cr/NCr). All credit hours in such courses are parenthesized on the student's transcript and the credit hours are excluded from credit toward graduation. Such courses are excluded from the calculation of the grade point average.

In addition, certain credit courses are graded only Cr/NCr. Any department in the University may offer its courses on a Cr/NCr basis. This designation is included in the course description of such courses in The Wichita State University Catalog.

If students withdraw from a Cr/NCr course before the end of the tenth week of the semester (or the fifth week of the eight-week Summer Session), a grade of W is recorded. If they withdraw from such a course after the tenth week of a semester (fifth week of the eight-week Summer Session), they receive a grade of NCr, subject to the right of petition to the University's Committee on Admissions and Exceptions. If students withdraw from an A/P/F course, the course will still count as one of the three allowable A/P/F option courses.

A course being repeated may not be taken under the A/P/F option and must be taken for a letter grade. The A/P/F option will be deleted effective Fall 1989.

Transfer of Credits

Transfer of Credits Within the University
From University College. Students are normally expected to transfer from University College to one of the six undergraduate degree-granting colleges at the end of the semester in which they earn their 24th credit hour. For a complete explanation of the transfer process, see the University College section of the Catalog.

Other Transfers Within the University. Students may transfer from any undergraduate degree-granting college to another provided they meet, as a minimum, the probation standards of the second college. Since some departments have space problems, they are forced to impose some limitations on the number of transfer students they accept. Such limitations must be approved by the dean of the college concerned and the vice president for academic affairs.

For specific information about probation standards and admission requirements of individual degree-granting colleges, refer to the individual college sections of the Catalog.

Examinations
The examination policy in each course is determined by the faculty of record and will be outlined with the course requirements. Reexaminations shall be permitted only with the consent of the faculty when reexamination is deemed to contribute to the academic objectives of the course.

Students cannot be required to take more than two final examinations per day. Arrangements for rescheduling the examination must be made by the student prior to the scheduled examination.

Special examinations, when requested, will be given only with the consent of the dean of the college involved.

Students who miss an assigned examination should arrange with their instructor to take a make-up examination. Deans of the college will serve as arbitrators only when deemed necessary.

Auditor
Students are permitted in credit courses on a noncredit basis with appropriate approval under an auditor classification. To be enrolled as auditors, students must enroll in the course before the end of the second week of classes of the semester (first week of classes of the eight-week Summer Session). Students withdrawing from an A/P/F course before the end of the tenth week of the semester (or the fifth week of the eight-week Summer Session) receive a grade of W. Students withdrawing from such a course after the tenth week (fifth week of the eight-week Summer Session) receive a grade of F, subject to the right of petition to the University's Committee on Admissions and Exceptions. Students withdrawing from an A/P/F course, the course will still count as one of the three allowable A/P/F option courses.

A course being repeated may not be taken under the A/P/F option and must be taken for a letter grade. The A/P/F option will be deleted effective Fall 1989.

Grading System
Wichita State grades include A, B, C, D, F, P, F, W, Au, Cr, NCr, S, U, I, R and CrE.

A Distinguished achievement. Credit given; four credit points per semester hour.
B Superior achievement. Credit given; three credit points per semester hour.
C Average achievement. Credit given; two credit points per semester hour.
D Below average achievement. Credit given; one credit point per semester hour.
P Passing work (with a B, C or D). Credit given; no credit points assigned.
F Failing work. No credit hours earned toward graduation; zero credit points per semester hour. Counted as a course attempted and completed and included in computation of grade point average.
W Withdrawal from course. No credit given; no credit points. Does not affect grade point average but counts as an attempt in repeat policy.
Cr Credit (A, B or C). Used only in the transition semester and for courses defined as Cr/Ncr in the Catalog. Credit given; no credit points. See the Catalog section on credit/no credit courses.

NCr No Credit (D or F). Used only in the transition semester and for courses defined as Cr/Ncr in the Catalog. No credit given; no credit points. See the Catalog section on credit/no credit courses.

S Satisfactory (A, B or C). Credit given; no credit points assigned.

U Unsatisfactory (D or F). No credit given; no credit points assigned.

I Incomplete. Temporarily recorded as a grade when a student is granted an extension of time to complete course work. Credit is postponed and the course is not included in the student’s grade point average until it is completed and a regular letter grade is assigned. An incomplete course must be satisfactorily completed by the end of the next semester in which the student enrolls, summer excluded, or the I reverts automatically to an F. Students may not enroll in the course in which they received the I unless they do not enroll at WSU for one calendar year.

The following conditions govern incompletes:

1. If students do not enroll at Wichita State within one calendar year following an incomplete and if their work is not completed within that calendar year, they must enroll in that course as a repeat during their next semester of enrollment or the grade will be changed to F. If they do enroll in the course again, the I is changed to W and the grade earned during the repeat semester becomes the grade of record. (If the course is not offered when they resume academic work, they must request that an exception be made by the chairperson of the department offering the course. The department chairperson may authorize a substitute course, postpone action for a semester or authorize a grade of W.)

2. If students receive an incomplete on the third enrollment in the same course, they may not enroll in the course again (enrollment becomes subject to the regulations concerning the repeating of courses).

3. Incompletes are not counted when computing grade point average.

4. When students receive a grade of incomplete, they are informed of the policies and procedures governing the removal of incompletes.

R Repeat. A prefix to other grading symbols indicating that the course is a repeat of one taken earlier, such as RA, RB, RC, RD, RF, RW or RI. The R prefix has no evaluative function but is used for information only. The following provisions concern repeats:

1. No course may be attempted more than three times. For this policy a repeat of an audit does not count as an enrollment, but a W counts as an enrollment. Exceptions may be made in writing by the chairperson of a student’s major department.

2. Any course may be repeated. Beginning on June 1, 1987, for students first enrolling at the University on or after that date, all grades will be included in the computation of the grade point average. The previous repeat policy will apply to former students.

3. A course being repeated may not be taken under the A/Pass/Fail option but must be taken for a letter grade. (See Catalog section on A/Pass/Fail option.)

4. Students may audit the same course any number of times.

CrE Credit by examination or by credentials in lieu of formal enrollment in college course work. The symbol CrE is used for College Board Advanced Placement (AP) credit, for College-Level Examination Program (CLEP) credit, for course credit awarded on the basis of the American College Test (ACT), for credit by departmental examination and for credit by credentials (military and similar background). Credit given; no credit points.

Courses may not be changed from one status to another—for example, graded to audit—after the enrollment period (through the drop/add week), except through petition to the University’s Committee on Admissions and Exceptions. If this committee approves a change in grade, the instructor, department chairperson and dean concerned must be informed by the committee before its recommendation is transmitted to the Registrar’s Office and the grade change entered on the student’s transcript. The dean must then notify the chairperson of the department concerned that the grade has been changed.

An instructor who wishes to request a change in a grade assigned more than one year earlier may petition the University’s Committee on Admissions and Exceptions. If this committee approves a change in grade, the instructor, department chairperson and dean concerned must be informed by the committee before its recommendation is transmitted to the Registrar’s Office and the grade change entered on the student’s transcript.

This change of grade policy does not affect the right of the student to appeal to the Court of Student Academic Appeals. However, the court will ordinarily not hear cases involving grades assigned
more than one year prior to the time of appeal. In cases where failing grades have been recorded because a student was unable to withdraw officially, the student may petition the dean of the college for a retroactive withdrawal from all courses in the semester in question. The student must provide verifiable evidence of the causes for failing to withdraw properly. If the petition is granted, the grades are changed to W through the usual change of grades procedure.

If a student requests a change more than a year after the original grades were posted, the student’s petition must also be approved by the University’s Committee on Admissions and Exceptions. The policy applies to all courses in a semester and can be invoked only for the Wichita State University courses. It may not be applied after graduation to courses attempted prior to graduation.

Transition Semester

To accommodate students in their adjustment to college standards, they may be eligible for a special transition semester. The transition semester is a student’s first regular semester at Wichita State regardless of the number of hours attempted (Summer Session excluded). However, students who have enrolled at another institution of higher learning in a regular term (summer term excluded) before enrolling at Wichita State are not entitled to a transition semester at the University.

When students receive their graded reports (A, B, C, D or F) and if they have below a 2.000 GPA, they may file a request with the dean of University College that all work in the transition semester be translated into Credit/No Credit (Cr/NCr) on their official records, with Cr applying to letter grades A, B and C, and NC applying to letter grades D and F. To have letter grades translated into Cr/NCr, the Transition Semester Request Form must be filed by the student with the dean of University College between the posting of the semester grades and the student’s next enrollment, including Summer Session. Students who file for transition semester will be placed on academic probation and will be required to meet the following criteria:

1. Students are limited to a maximum of 12 semester hours (or a proportional enrollment during Summer Session) or less during their next enrollment period.
2. Students must complete at least six (6) graded hours during their next enrollment (excluding Summer Session) before eligibility will be reviewed. This does not include enrollment in courses taken for Credit, Audit, Pass or Satisfactory.
3. Students must receive at least a 2.000 GPA.
4. Individuals admitted to Wichita State may earn credit by departmental examination. In general, students may earn credit by examination for any undergraduate course not covered in the areas given above. Students should apply directly to the chairperson of the department offering the course and consult with the Counseling Center before taking the exam. The chairperson will make the examination available, unless the course has been exempted from credit by examination by the University’s Academic Standards and Practices Committee. The chairperson will be responsible for ensuring that students are informed of the scope of the course, the text used and other relevant information.

Credit by Examination

Advanced standing credit may be earned by examination. The credit-by-examination program at Wichita State is designed to enable those who have achieved college-level education through independent study, correspondence, television instruction, past experience or other traditional or nontraditional means to demonstrate their level of achievement. The test results may be used to gain college credit in undergraduate courses. There are four means by which such credit may be earned:

1. Credit may be earned through an Advanced Placement (AP) examination administered by the College Entrance Examination Board (CEEB) through the student’s high school. The AP program is administered by CEEB in cooperation with participating high schools. The tests are graded under the supervision of CEEB and the scores, which range from a high of five to a low of one, are sent to the college or university chosen by the student. Credit by AP examination is awarded at Wichita State in the areas of biological sciences, chemistry, English, French, German, history, Latin, mathematics, physics, Russian and Spanish. Under the AP program, credit at Wichita State is granted for specific courses. The titles of the specific courses for which credit is granted and the scores necessary for such credit are available from the Wichita State Admissions Center.
2. Credit may be earned by examination through the College Board’s College-Level Examination Program (CLEP). CLEP examinations are administered through the Wichita State Counseling Center. Information about the dates and times at which CLEP examinations are given is available from the Counseling Center.
3. Credit for certain specified general education courses may be earned through examinations administered by the Wichita State Counseling Center. Information concerning the specific courses for which these tests are available and the standards applied in granting credit are available from the Counseling Center.
4. Individuals admitted to Wichita State may earn credit by departmental examination. In general, students may earn credit by examination for any undergraduate course not covered in the areas given above. Students should consult with the dean of University College in the related department before taking the exam. The exam is graded by the instructor, the
grade earned is recorded on the transcript.

b. If the department has received approval of the University's Committee on Academic Standards and Practices to assign letter grades for departmental examinations and if the department has prepared separate tests for CrE and graded credit, students must select which test they want to take. If the department has prepared only the examination for graded credit, students have the option to have their test evaluated either for graded credit or CrE credit, provided that the choice is declared to the department before the test is taken.

Fees are assessed to cover the costs of administering examinations and must be paid before the examinations are taken. A schedule of fees for the various examinations is available from the Counseling Center.

Credit awarded by examination is determined by the department offering the course in consultation with the University's Committee on Academic Standards and Practices. In the case of credit earned by departmental examination, the department has sole jurisdiction.

Credit by examination from all accredited institutions of higher education is evaluated in the same manner as regularly graded course work from these institutions. The credit awarded is adjusted to the credit-by-examination policies of Wichita State. Every attempt is made to ensure that credit by examination applies to both a student's degree program and University requirements for graduation. However, in no case may a transfer student receive more credit than that available to students at Wichita State.

Exemptions for Superior Achievement

Students who have completed a minimum of 12 hours at Wichita State and have a cumulative grade point average of at least 3.250 and a grade point average of at least 3.000 the previous semester may be granted several privileges:

1. They may be exempt from regulations governing the maximum number of hours allowed students during a semester.
2. They may also be exempt from college regulations, if any, governing the maximum number of hours students may take during a semester in one department.
3. They may have permission to have course prerequisites waived with the consent of the instructor of the course and the head of the department in which the course is taken.

Graduate Credit for Seniors (Senior Rule)

Seniors at The Wichita State University or neighboring baccalaureate degree-granting institutions who have an overall grade point average of 3.000 or above in their major field and in upper-division courses who are within ten hours of completing the bachelor's degree may take work for graduate credit under the Senior Rule. This work must meet all the requirements for the undergraduate degree and the degree must be completed within the semester in which a student takes the graduate courses. Students must also be admitted to the Graduate School. Application for the Senior Rule is made to the Graduate School and must be approved by a student's major adviser, chairperson for the department in which the course is taken, undergraduate dean and the dean of the Graduate School before any courses can be taken for graduate credit.

Emory Lindquist Honors Program

The Emory Lindquist Honors Program provides an enriched university experience to outstanding students. It is intended for students who are well-motivated and who have demonstrated the ability to learn. The program offers honors colloquia and honors sections of regularly-scheduled courses. Each course is limited to 25 students. It also extends opportunities for independent study and an honors option. The latter enables honors students to receive honors credit in any upper-division course.

The program's philosophical aim is to promote academic excellence at the undergraduate level by means of information, counseling, independent research and small-group instruction under the leadership of senior career faculty. It is a community of potential scholars.

Broad program policy is established by the Faculty Honors Committee, including the honors program director, and is subject to approval of the Executive Vice President for Academic Affairs. The honors director, in conjunction with the student-led Honors Executive Council, makes policy recommendations and sponsors student activities. The director is selected from the ranked professoriat for a three-year term.

Freshmen are admitted to the program if their high school grade point average is at least 3.500 as certified by the University. Transfer and incumbent students may enter the program if they have achieved a minimum grade point average of 3.250 over at least 30 credit hours at the University. Any student meeting these last two conditions, but who has not entered the program, may enroll in an honors course upon approval by the honors director. Matriculation as a University graduate of the honors program requires at least 15 honors credit hours in a minimum of two different disciplines and a continuous grade point average of at least 3.250. A written statement of benefits and requirements is available from the program office, 218 Liberal Arts and Sciences Building.

Periodic offering of specific honors courses is determined by the Faculty Honors Committee pending their evaluation of proposed content and faculty. Students may receive academic credit a maximum of two times in each of the following courses.

Lower-Division Courses

1. Special Studies in Humanities and the Fine Arts. (1-4). P 11 101 0 4905
3. Special Studies in Natural Sciences and Mathematics. (1-4). P 11 103 0 4907
5. 201. Proseminar in Humanities and the Fine Arts. (1-4). P 11 201 9 4905
7. 203. Proseminar in Natural Sciences and Mathematics. (1-4). P 11 203 9 4907
8. 204. Proseminar in Professional Studies. (1-4). P 11 204 9 4908

Upper-Division Courses

1. Colloquium in Humanities and the Fine Arts. (1-4). P 11 301 9 4905
3. Colloquium in Natural Sciences and Mathematics. (1-4). P 11 303 9 4907
5. 400. Honors Seminar. (1-4). P 11 400 9 4909
6. 410. Independent Study. (1-4). Repeatable to a maximum of six hours of credit. P 11 410 9 4910
7. 420Q. Seminar in Humanities and Fine Arts. (1-4). P 11 420Q 9 4905
8. 430Q. Seminar in Social and Behavioral Sciences. (1-4). P 11 430Q 9 4906
9. 440Q. Seminar in Natural Sciences and Mathematics. (1-4). P 11 440Q 9 4907

Independent Study Leading to a Degree with Departmental Honors

Outstanding students may enroll in their junior or senior years in independent study which leads to a degree with departmental honors if the work is satisfac-
VOLUNTARY WITHDRAWAL

Students encountering special problems during a semester may protect their record through voluntary academic withdrawal based on the following procedures.

Students may withdraw voluntarily from any or all courses through the tenth week of a semester or the fifth week of the eight-week Summer Session and have a W recorded for the course(s).

After the tenth week of a semester or the fifth week of the eight-week Summer Session, students may withdraw from one or more courses with a W only if they petition the dean of their college and if the University’s Committee on Admissions and Exceptions approves their petition. (The alternative to a W is an F.) When students wish to withdraw, they must consult an adviser, obtain drop slip(s) for every course (time number), and have their adviser sign in the appropriate place. They must then take the drop slip(s) to the instructor of each dropped course and obtain the instructor’s signature. After receiving the instructor’s signature(s) for each dropped course, students must take the drop slip(s) and their certificate of registration to the office of the dean of the appropriate college for the dean’s signature and final approval. The completed drop slip(s) and certificate of registration must then be taken to the admissions and records office in Jardine Hall. Refund, if any, will be made according to the schedule published in The Wichita State University Schedule of Courses.

Complete withdrawal from Wichita State must be made in writing to the dean’s office of the appropriate college.

ACADEMIC RECOGNITION

In all colleges, honors criteria are established for Wichita State students by the University and apply equally to all students, whether or not they are in the Emory Lindquist Honors Program. All honors are based on WSU grade point average.

The Dean’s Honor Roll is published each semester and is composed of students enrolled in 12 or more semester hours of graded work who achieve a grade point average of 3.500 or higher for a semester.

Degrees are conferred with distinction upon students who have shown excellence in scholarship. The minimum standard for graduating summa cum laude is a grade point average of 3.900 on Wichita State course work. The minimum standard for graduating magna cum laude is a grade point average of 3.550 on Wichita State course work. The minimum standard for graduating cum laude is a grade point average of 3.250 on Wichita State course work.

WITHDRAWAL

Students failing to secure such a degree either because of failure to complete their projects or failure in the examination will receive academic credit toward the regular degree for the credit hours completed, with the grade determined by the instructor under whom the work was performed. In no case may any student receive more than six hours of credit for independent study.

ADMINISTRATIVE WITHDRAWAL

Administrative withdrawal may be initiated by the dean’s office of the college in which a student is enrolled, the business office, Division of Student Affairs or other appropriate University offices for the following reasons:

1. The student’s class attendance is so poor that in the instructor’s opinion full benefit cannot be derived from the course.

2. A University College student fails to be accepted by a baccalaureate college by the time of completion of 48 credit hours.

3. The student fails to complete successfully all prerequisites for those courses in which the student is enrolled.

4. The student violates the provisions of the student’s responsibilities statements in the University Catalog. (See the Student Responsibility section of the Catalog.)

5. The student does not comply with the terms of a provisional admission.

6. The student has unmet financial obligations to the University.

The office initiating administrative withdrawal will notify the dean of the college in which the student is enrolled when withdrawal proceedings are initiated. The student is then notified by the dean’s office that he or she may be withdrawn administratively so that the student may explain his or her position before final action is taken. Formal notices from the dean’s office are ignored or returned because the address given by the student at the time of enrollment is incorrect. Administrative withdrawal will take place 15 days after the initial notice. A grade of W or F will be officially recorded on the student’s permanent record for a course or courses from which the student is administratively withdrawn. The grade of F will be recorded only if the administrative withdrawal is for academic reasons.

ACADEMIC PROGRESS REPORTS

Reports on a student’s progress are given in several ways.

Midterm Down Reports. At midterm, a Down Report may be sent to students doing below average work and to their academic adviser as an indication that their grades need to be improved. Students should meet with their instructor and/or college adviser to discuss the problem.

Absence Letters. Faculty members who make regular attendance checks may inform the dean of a student’s college when the student is absent excessively. The dean may either process an administrative withdrawal or request that the student initiate an official withdrawal or make arrangements with the instructor to complete the course. Students failing to take either course of action will receive an F at the end of the semester.

Informal Warning. Students with an overall grade point average below the level required by their college for graduation (or above 2.000 for University College) but below this level for one semester may receive a letter from the
The faculty at Wichita State has established a procedure to resolve disputes arising out of the classroom through the Court of Student Academic Appeals. The court hears appeals from students who feel they have been treated unfairly in grading or in an instructor's charges of plagiarism, cheating or similar offenses. The court is designed to help resolve differences that cannot be settled in the framework of the student-faculty relationship and offers an important safeguard for students.

Any student may use the appeal procedure. Forms are available in the Division of Student Affairs, 103 Grace Wilkie Hall. The general procedure is explained to students when they pick up the form.

Requirements for Graduation

The University's minimum graduation requirements are given below. Students should consult the appropriate section of the Catalog for additional graduation requirements imposed by the department and college of their major.

Seniors are required to file an Application for Degree card in the office of the dean of their college at least two semesters before their expected date of graduation.

Students must have credit for 124 acceptable semester hours toward their degree. This should include no more than three courses taken under the At/Pass/Fail option. Hours of credit earned toward a degree do not include courses with grades of F, W, Au, NCR or 1.

Requirements for completion of a degree program:

1. Students must maintain an overall grade point average of 2.00 (transfer work included) and a grade point average of 2.00 on all work taken toward a degree at Wichita State. Furthermore, students must maintain a grade point average of 2.00 in the courses in their major field of study.

2. Students shall not be allowed credit toward graduation for D grade work in excess of one-quarter of their total hours.

3. Students must have a minimum of 40 semester hours of credit in courses numbered 100-199.

4. Students must have a minimum of 40 semester hours of credit in courses numbered 200-299.

5. Students must have a minimum of 40 semester hours of credit in courses numbered 300-399.

6. At least 30 semester hours of course credit (A, B, C, D, P or Cr) must be earned at Wichita State. Also, at least 24 of the last 30 semester hours or 50 of the last 60 semester hours must be completed at Wichita State. Exceptions to this regulation may be made by the University's Committee on Admissions and Exceptions. Students may transfer credits earned in correspondence or extension courses with the approval of their dean. However, no more than 30 semester hours of such credit may apply toward a baccalaureate degree and no more than six hours of such credit may be among the last 30 semester hours.

General Education Program

The General Education Program seeks to provide each student with a body of knowledge that is both a broad foundation for his or her major field of study, and also the beginning of what is necessary to become a genuinely educated man or woman. To achieve these purposes, the program combines required courses in composition, speech and mathematics with distribution courses in the various major areas of knowledge. These distribution courses are identified in the course catalog and schedule of courses as "G" courses. There are also some special distribution courses designated specifically for students who might have no further encounters with a certain field of study. These General Studies courses are designated in the catalog as "G" courses and students are required to take a minimum of nine hours of "G" courses. To assure the breadth of studies that is characteristic of an educated human being, the faculty requires students to select their distribution courses according to certain rules, which are stated below. The General Education Program is an opportunity for all students to grow in their knowledge of and appreciation for the rich variety of human achievements in the arts, sciences and humanities.

The program consists of 42 hours—12 hours of basic skills courses and 30 hours of distribution courses.

Students entering The Wichita State University during or after the fall semester of 1983 must fulfill the General Education Program requirements in partial fulfillment of the requirements for the bachelor's degree. Students entering the University prior to the fall semester of 1983 who receive a bachelor's degree from The Wichita State University under the catalog requirements of 1983 or later must fulfill the General Education Program requirements. (See Date of Catalog Requirements.)

Students transferring to The Wichita State University under the Transfer and Articulation Agreement of the Kansas Public Community Colleges and State Universities are considered to have met the requirements of The Wichita State University General Education Program. Community college graduates and
Transfer students not covered by the agreement are required to enroll in the prorated number of hours necessary to complete The Wichita State University General Education Program as determined by transcript evaluation. Included in these hours are a number of General Studies courses prorated on the proportion of the 30-hour distribution requirement yet to be fulfilled, as shown in column three of the table below.

This table refers only to students with previous college credit and is not applicable to entering freshmen.

<table>
<thead>
<tr>
<th>No. of transfer hours accepted for distribution</th>
<th>No. of &quot;Q&quot; and &quot;G&quot; hours to be included in column 2</th>
<th>Minimum No. of &quot;G&quot; hours yet required</th>
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<tr>
<td>1-6</td>
<td>29-24</td>
<td>9</td>
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<td>7-15</td>
<td>23-15</td>
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<td>16-21</td>
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<td>22-29</td>
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To complete the General Education Program each student must take:

I. Basic Skills (12 hours)
   A. English 101 and 102 with a grade of C or better.
   B. Speech 111 or 112
   C. Math. 109, 111, 112 or 211; or another math course for which one of these courses is a prerequisite.

Students with deficiencies in the Basic Skills may be required to take background work or refresher courses.

II. Distribution Courses (30 hours)
   A. Distribution requirements may be satisfied only by courses designated by the letters "Q" or "G" following the course number in the Schedule of Courses. For a course to be considered a distribution course, it must have been designated by a "Q" or "G" during the semester in which the student was enrolled.
   B. Rules for Distribution Courses
      1. At least nine hours must be completed in three different departments in Division A (Humanities and Fine Arts). This excludes performance and studio courses as well as basic language courses.
      2. At least six hours must be completed in two different departments in Division B (Social and Behavioral Sciences).
      3. At least six hours must be completed in two different departments in Division C (Mathematics and Natural Sciences).
      4. No more than six hours of work taken in any one department may be used to satisfy the distribution requirement.
      5. The remaining nine hours may be taken in any division, if the course has a "Q" or "G" designation during the semester in which the course is taken. Performance and studio courses with the "Q" or "G" designation may be taken to complete this portion of the distribution requirement.
      6. At least nine of the 30-hour distribution requirement must be taken in General Studies courses. These courses are offered only at The Wichita State University and are designated by the letter "G" following the course number. These courses are explained in the section titled General Studies Courses.
      7. No course with either a "Q" or "G" designation may be used to fulfill both the requirements of the General Education Program and requirements in the department(s) of the student's declared major(s).

All distribution courses are listed in a special section of the Schedule of Courses each semester. In most cases, courses from a given department will satisfy distribution requirements for the division in which the department is listed below. However, the divisional assignment of specific distribution courses should always be verified in the Schedule of Courses for the semester in which the course is taken.

1. Division A—Humanities and Fine Arts (excluding performance and studio arts courses): American studies; art education; art history; dance; English; graphic design; history; interdisciplinary liberal arts and science program; linguistics; music education; music performance; musicology-composition; philosophy; religion; Modern and Classical Languages and Literatures (excluding basic first-year language courses); speech communication; studio arts; and women's studies.

2. Division B—Social and Behavioral Sciences: accounting; administration of justice; anthropology; business education; economics; finance/real estate/urban studies; geography; gerontology; health administration and education; instructional services; journalism; management; marketing and small business; military science; minority studies; personnel services; physical education; political science; psychology; social work; sociology; and urban studies.

3. Division C—Mathematics and Natural Sciences: aeronautical engineering; emergency medical training; biological sciences; chemistry; communication disorders and sciences; computer science; dental hygiene; electrical engineering; engineering; engineering technology; geology; health sciences; industrial education; industrial engineering; mathematics; mechanical engineering; medical technology; nursing; physical therapy; physician assistant; physics; and respiratory therapy.

General Studies Courses
General Studies courses are designated by the letter "G" following the course number. They have been designed to provide students the knowledge necessary to develop informed understanding of areas outside of their own fields of specialization. The courses attempt to provide students information and concepts that promote awareness of both the achievement and the limits of knowledge in a given area.

Students transferring to The Wichita State University under the Transfer and Articulation Agreement of the Kansas Public Community Colleges and State Universities should see paragraph four under General Education Program.

General Studies courses, taken to fulfill this specific portion of the General Education Program, also count as distribution courses. No course with a "G" designation may be used to fulfill both the requirements of the General Education Program and the student's declared major(s).

The following courses have been approved as General Studies courses. A complete list of General Studies and "Q" courses are listed in each semester's publication of the Schedule of Courses. Course descriptions may be found in the appropriate departmental listings in the Catalog.

Division A, Humanities and Fine Arts
Amer. Stud. 201G, The American Hero
Art His!. 121G, Survey of Western Art: Paleolithic through Early Christian
Art His!. 122G, Survey of Western Art: Renaissance and Baroque
Eng. 230G, Exploring Literature
Eng. 232G, Themes in American Literature
Eng. 307G, Narrative in Literature and Film
Eng. 400G, The Literary Imagination: Epic, Romance, Tragedy, Comedy
His!. 100G, The Human Adventure: World Civilization Since 1500
His. 101G, History of Western Civilization
His. 102G, History of Western Civilization
His. 108G, A History of Lost Civilizations
Ling. 110G, Learning Another Language
Ling. 151G, The Nature of Language
Mus.-Comp. 160G, The Heritage of Western Music
viced that none of the 30 WSU hours is counted in the first degree and provided that all The Wichita State University college and department graduation requirements are met.

Students who have received one bachelor's degree from The Wichita State University may receive a second upon completion of a minimum of 30 hours in residence and upon satisfying the requirements from the department and college from which the second degree is sought. These hours are in addition to those required for the first degree.

Commencement

Wichita State holds one commencement a year. All summer, fall and spring graduates are invited to participate in the May commencement exercises.

Special Academic Areas

Cooperative Education Program

Cooperative Education is an academic program for undergraduate and graduate students who wish to combine classroom studies with academically related paid employment. Cooperative Education places students both locally and nationally. 

By utilizing off-campus resources and expertise, cooperative education places students in business, government, industry, health and social agencies. Programs are individually designated enabling students to work directly with professionals in their field while expanding upon knowledge learned in the classroom. Opportunities may occur for students to refine research methods, apply theories in actual field settings, work with advanced technology and design original projects and research.

Students placed in cooperative programs must enroll in specially designated co-op courses and work with a faculty advisor from within the appropriate departments. Each placement is assessed by the faculty advisor for its potential to provide learning experience relevant to the student's professional and educational goals.

Academic credit may be earned through co-op placements as determined by the student's faculty advisor. During the work period, students are expected to meet project requirements assigned by their advisor. Academic credit generally counts toward University degree requirements.

Cooperative Education offers both full-time and part-time placements. Students who select the full-time option must alternate a semester of full-time enrollment in course work before entering a second full-time position. Alternating placements carry the status of full-time students and enjoy the accompanying privileges.

Students selecting the part-time option are required to carry a minimum of six hours of course work in addition to their co-op course. Students may enroll in part-time co-op positions during consecutive semesters so long as faculty advisors determine that meaningful learning experiences exist.

Requirements for co-op participation vary within the different colleges and departments. Requirements for admission to the co-op program generally include completion of 24 credit hours and satisfactory academic standing. Interested students should contact the Cooperative Education Office in 125 McKinnley Hall or phone (316) 689-3688. Students are required to complete an application for admission and schedule an interview with the appropriate co-op coordinator.

Division of Continuing Education

One of the four basic objectives of Wichita State is to provide continuing education opportunities for adults. The Division of Continuing Education's programs and activities are directed toward meeting the higher education needs of adults throughout the Wichita area and the state. The primary functions of the division are to:

1. Provide, in cooperation with degree-granting colleges, courses, programs and support services for faculty and students in off-campus locations
2. Develop and provide alternative information sources, registration procedures and orientation programs for adult part-time students
3. Cooperate with business, industry and the professions in providing specialized credit and noncredit classes
4. Provide planning and support services to the continuing education centers within the individual academic colleges
5. Organize and administer courses for nontraditional students designed to meet their unique time and location needs. The instructional services of the University are extended through courses presented over WSU Cable 13, KMUW Radio and commercial television stations, in outreach locations; and through Weekend University.
6. Assist in the development of original presentations and coordinate the reception of teleconference programs provided by the National University Teleconference Network and other educational teleconference producers
7. Coordinate adult scholarships and senior citizen services
8. Provide centralization of the records and reporting functions to the Kansas Board of Regents for University-wide, off-campus credit activities and all noncredit programs.

Graduate School
More than 3,500 students at Wichita State are enrolled in the Graduate School. The Graduate School offers programs leading to master's, specialist and doctoral degrees. Master's programs are offered in accounting, administration of justice, aeronautical engineering, anthropology, art education, biological sciences, business administration, chemistry, communications, communicative disorders and sciences, computer science, counseling and school psychology, creative writing, economics, educational administration and supervision, educational psychology, electrical engineering, elementary education, engineering management science, English, geology, gerontology, health science, history, liberal studies, mathematics, mechanical engineering, music, music education, nursing, physical education, physical therapy, physics, political science, psychology, public administration, secondary education, sociology, Spanish and studio arts. The Specialist in Education, a degree beyond the master's level, is awarded in counseling and school psychology and in educational administration and supervision. Doctoral programs are offered in applied mathematics, in chemistry, in communicative disorders and sciences and in engineering with emphases in either aeronautical, electrical, industrial or mechanical. A transfer arrangement with the University of Kansas allows substantial parts of doctoral programs in educational administration to be completed at Wichita State.

For complete information on the graduate programs see The Wichita State University Graduate Bulletin.

Summer Session
During its Summer Session—the largest in the state of Kansas—Wichita State continuing its commitment to quality education. All of the University's academic divisions operate during the Summer Session, and credit toward both graduate and undergraduate degrees may be earned. More than 200 faculty teach more than 650 regular and short courses; the standards of achievement are identical with those of the academic year. Credits earned in the Summer Session are accepted by all colleges accredited by or belonging to the associations that accredit the University. Courses are offered in a variety of formats. A three-week pre-session precedes two four-week sessions which are concurrent with the regular eight-week session. Both day and evening classes are offered. For information regarding dates for the various sessions, dates of enrollment and course offerings, contact:

Director of the Summer Session
The Wichita State University
Wichita, Kansas 67208-1595
(316) 689-3726

Admission and Enrollment
The rules governing admission to the Summer Session are the same as those for the regular academic year. (See the Admission to Wichita State section of the Catalog.)

A general registration enrolls students just before the eight-week and first four-week sessions. Separate registrations are also held for each of the short sessions. Detailed information on registration is available in the Summer Session Schedule of Courses.

The fees for the Summer Session are the same as those for the regular academic year. (See the Financial Information section of the Catalog.)

Special Summer Programs
Workshops. Workshops devoted to current topics are offered throughout the summer. Typical courses include workshops for teachers in the areas of business, education and fine arts; courses in current health issues; an entrepreneur-ship workshop for persons considering creating a small business; and field study in topics such as the floral ecology of the Rocky Mountains, the Osage culture in Oklahoma, or a wilderness experience in a national park. A list of the workshops being offered each summer is included in the Summer Session Schedule of Courses. Special fees are charged for workshops. (See the Financial Information section of the Catalog.)

High School Students. High school students between their junior and senior years may enroll as guest students for college credit in many WSU classes. Other summer opportunities at Wichita State for high school students include sports camps in basketball, baseball and volleyball; a drum major and twirler camp; and enrichment courses for career exploration.

Study Abroad Programs. Wichita State offers organized study abroad programs in Mexico and France. Students of French can improve their fluency and broaden their understanding of French culture in the five-week summer program in Strasbourg, France. Students with a minimum of one year of university French or the equivalent are eligible to participate. Students live in university housing, are invited into French homes and attend intermediate through graduate level courses in French language, culture and literature. Up to six hours of credit may be transferred to WSU. Work is also available in German for students of French and German. For more information, contact the Department of Modern and Classical Languages and Literatures, 305 Jardine Hall.

Spanish Program in Puebla, Mexico. The Department of Modern and Classical Languages and Literatures offers a program designed to broaden students' comprehension of the language, customs, history and culture of Mexico. Students live in the Hotel Colonial in Puebla for three weeks and in private homes for three weeks.

Six hours of undergraduate or graduate credit may be earned by those who complete the six-week course. For more information, contact the Department of Modern and Classical Languages and Literatures, 305 Jardine Hall.

Field Geology. Wichita State and Kansas State universities present a joint summer field course in geology. The base camp is Beulah, Colorado, on the east flank of the Wet Mountains. The summer field course consists of five weeks in the field, for which students receive six hours of credit.

Applicants should have completed course work in physical and historical geology and at least 12 hours of advanced geology preferably including a field methods mapping course. Inquiries should be directed to the Department of Geology, 228 McKinley Hall.

Financial Information
Tuition and fees cover only about one-fourth of the cost of a university education. The remaining expenses are paid out of donations made to The Wichita State University Endowment Association and from appropriations from the State of Kansas.

Comprehensive Fee Schedule
Fees given in this Catalog were proposed for 1988-89 and may be changed by the Kansas Board of Regents or the Kansas Legislature.
Basic Fees
Basic fees for on-campus (City of Wichita and the immediate contiguous industrial and military facilities) regular enrollment and continuing education credit courses are:

Undergraduate tuition fee—regular semester and Summer Session
1 through 14 hours—per credit hour $36.65 $117.65
15 hours and above—flat fee $550.00 $1,765.00

Graduate tuition fee—regular semester and Summer Session
1 through 14 hours—per credit hour $44.65 $125.65
15 hours and above—flat fee $670.00 $1,885.00

Student fee—regular semester and Summer Session
1 through 14 hours—per credit hour $10.50 $31.50
15 hours and above—flat fee $157.50 $157.50

Student Service fee—per semester $7.00 $7.00

Total undergraduate required fees, based on 15 credit hours for regular semester $714.50 $1,929.50

The student fee, required of all students enrolled on the Wichita State campus, supports parking, student union, student government, University Forum, student publications, concerts, drama, opera productions and similar items.

Off-Campus Regular Enrollment and Continuing Education Credit Courses and Workshop Fees
A specific course fee of $43 (undergraduate) or $62 (graduate) per credit hour is assessed for off-campus courses and workshops. Fees for noncredit courses are based on actual operating costs.

Workshop Fees—On Campus
A workshop fee of $52.85 per credit hour, including $42 for tuition and $10.35 for student fee, is assessed. Fees for noncredit workshops are based on actual operating costs.

Auditing Course Fees
Students pay the same tuition and fees per semester hour for audited courses as for credit courses or noncredit courses.

Departmental Fees
Special departmental fees are charged as summarized below:
1. Students are required to reimburse the University for the cost of excess breakage, wastage of materials and materials used in excess of those required to complete a course.

2. Geology Field School-actual costs per semester

3. Military science—$6 per semester

4. Physical education (bowling) $25 per semester

5. Physical education (bowling), PE $20B $7 per course

6. Physical education (horsemanship) $75 per semester

7. Physical education (scuba diving) $75 per semester

Free Music Courses
During the academic school year, undergraduates enrolled in courses of more than 14 hours will not be charged tuition and fees for the following ensembles:

- Wind Ensemble, Mus. Perf. 210B, 410B and 710B
- Orchestra, Mus. Perf. 211A, 411A and 711A
- Band (Symphony), Mus. Perf. 211B, 411B and 711B
- Band (Concert), Mus. Perf. 212B, 412B and 712B
- University Singers, Mus. Perf. 211F, 411F and 711F
- Contra Choir, Mus. Perf. 212F, 412F and 712F
- A Capella Choir, Mus. Perf. 213F, 413F and 713F

Students enrolled in fewer than six hours will be charged regular tuition and student fees. Tuition and fees will be approximately those charged for the first six hours of credit. Tuition and fees will be calculated on a prorated basis for those hours specifically scheduled for each membership category and/or activity of interest. Hours will vary.

Special Fees, Deposits and Waivers
Certain other fees are assessed as indicated below:

- English composition placement fee $4.00
- Diploma replacement fee 10.00
- Identification card fee 5.00
- International student application processing fee 25.00
- Orientation fee 15.00
- New freshman student 20.00
- Transcript and certification fee 2.00
- Public documents per copy charge 10.00
- Late registration fee 10.00
- After 20th day 25.00
- Library fines and lost materials—cost per fine schedule or cost of replacement of material plus a processing fee
- Reserving of class fee 10.00
- Returned check fee 10.00
- Instrument use fee, per semester 15.00
- Placement service fee 10.00
- Telecourse fee per credit hour 8.00
- College of Health Professions Equivalency examination fee per credit hour 8.00
- Physician assistant application fee 15.00
- Acceptance fees
  - Emergency medical technician* 25.00
  - Dental hygiene* 100.00
  - Medical technology* 100.00
  - Nursing* 100.00
  - Physical therapy* 100.00
  - Physician assistant* 100.00
  - Respiratory therapy* 100.00
- Nonimmigrant student fee 26.00
- Experiential learning assessment fee per person 25.00
- Departmental examination fee per credit hour 8.00

* Acceptance fees are due no later than 30 days after admission to a program and are nonrefundable. The fee will be applied toward the tuition of the first semester of the program.

Contracts and Compensatory Charges
The schedule of fees reported here does not limit the charges that may be made under arrangements with other governmental or private agencies except that such arrangements may not provide for lesser charges. Compensatory or other charges to more nearly cover actual
students of instruction are specifically authorized.

**Drop Fee**

Preregistered students may drop courses during registration without charge. When an approved change of schedule involves both the dropping and adding of courses the tuition and student fees already paid for the dropped courses will apply to the tuition and student fees for the courses being added. A $10 drop fee will be assessed during the first five weeks of a semester (two weeks of summer school) for all drop/add transactions submitted at the same time. No fee will be assessed for adding courses.

**Refund Policy—Complete and Partial Withdrawal**

Students making a complete or partial withdrawal during the first two weeks of a semester (first week in the eight-week Summer Session) are entitled to an 80 percent refund of tuition and fees. Students making a complete or partial withdrawal during the third, fourth and fifth weeks of a semester (second week in the eight-week Summer Session) are entitled to a 40 percent refund of tuition and fees. No refund is made to students who withdraw after the fifth week (second week in the eight-week Summer Session).

Classes and credit workshops meeting for a period other than the regular academic term will refund 80 percent during the first 10 percent of class time, 40 percent during the next 20 percent of class time and no refund thereafter. Refunds on noncredit workshops will be made only on cancellations received 48 hours prior to the time of the scheduled workshop.

To withdraw completely from the University, students must process drop cards for all classes in which they are enrolled and surrender their Certificate of Registration.

**Fee Waiver Policy**

The dean of a student's college, or his or her designee, or the Registrar may authorize a waiver of special fees and/or nonrefundable tuition fees in cases where the schedule change or withdrawal is required because of University regulations, clerical errors, misadvising, class schedules changed by the University or other exceptional circumstances beyond the control of the student and determined valid by the college dean or his or her designee. The waiver petitioning procedure is as follows:

1. Students request a petition form from the dean's office of their college and provide the information requested on the form.
2. Students present the petition to their college dean's office for consideration. Graduate students petition the Graduate School's dean's office.
3. Students are notified of the action taken on the petition.
4. Students submit approved petition to the Controller's office with their enrollment, schedule change or withdrawal forms.
5. When students wish to appeal a negative decision on a petition, they call their college dean's office for information on how to file an appeal.

**Senior Citizen Fee Waiver**

In accordance with the Kansas Board of Regents policy, students who are at least 60 years of age may enroll as auditors (noncredit) in any academic credit course in which there is space available without paying tuition and fees. Senior citizens must present a Medicare card or driver’s license to validate age. A special senior citizen registration is held after the first day of classes (see the Schedule of Courses).

Senior citizens desiring college credit or the assurance of space in specific courses may enroll and pay full fees during regular registration. Course prerequisites apply to senior citizens as well as other students.

**Period of Payment**

All semester fees, including laboratory fees, must be paid in full at registration.

**Unpaid Fees**

Students who leave the Wichita State University without meeting their financial obligations to the University may have their records impounded by the Registrar. Their transcripts or diplomas will not be issued unless their account is cleared and they may not enroll for a new term unless all fees are paid.

**Assessment and Collection**

The University controller assesses and collects the fees. The controller, the dean of the College of Fine Arts and a faculty member from the W. Frank Barton School of Business constitute the Board of Appeals for students who believe their fees have been incorrectly assessed. The decision of this committee is final. Forms to initiate the process are available at the Registrar's office.

**Student Housing Fees**

Room and Board rates at the Wichita State University vary with the choice of meal plan. Housing costs for the 1987-1988 school year are $2,465 for 19 meals per week, $2,415 for 15 meals per week and $2,335 for 10 meals per week, and may be made either monthly or semiannually. Single rooms are available at an additional cost of $500 per semester. These rates include furnished, air-conditioned rooms, local telephone service and all utilities. In addition to the housing fees, a $35 nonrefundable application fee is assessed each person applying for a room in the residence halls.

Rates for fiscal year 1988. Fees may be changed by the Kansas Board of Regents.

**Financial Aid**

Wichita State offers financial assistance through scholarships, employment and federally supported programs. Students interested in any type of financial assistance should contact the University's Office of Financial Aid, Grace Wilkie Hall, to see what aid is available for their specific needs. Most financial aid is based on family need, but some scholarships are awarded without consideration of financial need.

**Scholarships.** The Board of Trustees of the University, in cooperation with the Kansas Board of Regents, administers a large number of scholarships and loans coming from endowed property and funds of the University.

Employment. All full-time students are eligible for regular part-time or work-study employment at the University, with preference going to students with the greatest demonstrated financial need. Students may find employment in such positions as academic assistants, clerical workers, technical workers, custodial and food service workers and library assistants.

Federal Grants and Loans. Students may receive aid through several federal programs: Supplemental Educational Opportunity Grants, Pell Grants, National Direct Student Loans and Guaranteed Student Loans.

As part of the Office of Financial Aid, the Office of Veterans and Military Services devotes itself to veterans and active duty people. The services span the entire range of benefits and include certification for benefits to the VA, tutorial assistance, financial aid information and work-study for veterans.

The Wichita State University is designated a Serviceman's Opportunity College.

**Endowment Association**

The Endowment Association of The Wichita State University is the appropriate channel for fund-raising at the University. The coordination of all fund-
raising activities is conducted through the Endowment Association (Development Office) under the direction of the Executive Director of Development.

All investments and bookkeeping responsibilities with regard to gifts to the University are handled through the Endowment Association. A computerized system provides comprehensive recording of all gifts.

Endowed Chairs
The most prestigious manner in which to endow monies to the University is through an Endowed Chair. An Endowed Chair, named according to the wishes of the donor, may be established with an endowment of $500,000. The Endowed Chairs current to the University are:

R. P. Clinton Chair in Business
Entreprenuership Chair
Kansas Chair in Real Estate and Land Use Economics

Endowed Professorships and Fellowships
A University Professorship may cross disciplinary lines and is not restricted to a college or department. The income from such an endowment is used for support of a faculty position. A University Professorship, named according to the wishes of the donor, may be established with an endowment of $200,000.

A PhD Fellowship helps doctoral candidates to achieve their goals within a particular field. A fellowship is named according to the wishes of the donor and is established with an endowment of $120,000 or more.

The current University Endowed Professorships and Fellowships are:

Boeing Professorships
Adele Davis Professorship of Humanities
Geraldine Hammond Visiting Professorship of Humanistic Studies
Hugo Wall Fellowship

Other Endowments
To improve its fiscal stability, The Wichita State University has developed a permanent endowment fund invested to provide continuing income in support of various programs and activities of the University. The major portion affords financial assistance to students as directed by the donors. Other programs supported by the endowment are:

ACE Endowment Fund
Dr. and Mrs. Charles A. Adams Fairmount Fund for Faculty
Jackson P. Adams Endowed Book Fund
W. Frank Barton School of Business
Berg Lectureship
Sam Bloomfield Distinguished Engineer in Residence
Colorado-Derby Library Fund

Endowed Professorships

Melba Conwell Budge Piano Pedagogy
Business Heritage Series Fund
Butler-Ransom Fund for Religion
Devlin Athletic Fund
Devin Entrepreneurship Fund
Entrepreneurship Activities
Entrepreneurship Research Fund
Dr. Carl Fahrbach Football ’70 Memorial Football ’70 Flower Fund
Fugate Pure Mathematics Fund
John L. Garlough Fund
Deborah G. Haynes Fairmount Fund for Faculty
Brad Hellman Memorial
Honor Fives Fund
M. Alice Isely Memorial Book Fund
Claude R. Lambe Fund
Norma Lee Fairmount Fund for Faculty Library Associates Fund
John Rigget Fund
Eugene W. Lightner Athletic Programs
Romance S. Lightner Fund
Thomas B. Meeker Memorial Fund

Endowed Scholarships and Grants
The Wichita State University has been fortunate to receive donations submitted in the names of the following individuals. Many are past graduates, faculty and administrators of the University who wish to assist future graduates in financing their years at The Wichita State University. The scholarships listed are funded through the proceeds of the gifts from these individuals and play a vital role in the University's attempt to meet the full needs of students requiring financial aid.

Recipients must meet the specific requirements of the scholarships each semester. In addition, all recipients of designated scholarships must write an appropriate letter of acceptance to the donor.

Endowed scholarships and respective departments include:

Clark and Rowena Ahlberg, general
AIFAM, athletics

Fred and Mary Aley, business
Robert Aley, education
Alumni Awards, general
Alumni Bowling, athletics
Floyd Amsden, music
Anderson Walk-On, athletics
James E. Anderson, Sr., education
Robert E. Anderson-Leonard M. Chaffee, education
Anonymous, general
Jack Austin, business
A. J. and Jean Bachas, general
James Kerr Bandsman, music
Bank IV, general
Bentley and Pearl Barnabas, business
W. Frank Barton, business
W. Frank Barton, entrepreneurship
Beech Employers Club, athletics
Walter H. Beech, aeronautical engineering
Lloyd R. Bell Memorial, music
Douglas Bendell, liberal arts
Christopher Benn, medicine, science/engineering
Big Brothers-Big Sisters of Sedgwick County, general
Biological Science, biology
Dr. Leslie Blake, speech
John Blazek, Wushock
V. J. Blue, entrepreneurship
Luella Bosworth, English
Merrill Bosworth, music
Hazel Branch, biology
Margaret Gilespie Brehm, general
Sidney J. Brick, bowling
Hazel and Edward R. Brookings, health
War O. and Agnes Brooks, biology
Marvin G. Brown Football Memorial, general
Raymond LeClair Budge, art
Charles M. Buech, chemistry/business
Garland and Jeanette Buga, handicapped services
Stephen Burnam Memorial, mechanical engineering
Louisa Byington, liberal arts
Marjorie Calkins Memorial, music
Vincent Canzoneri, music
James Ceasar, music
Leonard M. Chaffee, education
Van Dilla Chapell, general
Anna V. and Robert V. Christian, chemistry
Donald G. Christian Football Memorial, general
Christmas Card Endowed, general
Harry Christopher Award, math
James Chubb, economics
Class of 1927, general
Rick P. Clinton, business
Flora Clough, English/literature
Verda Cozwell Memorial, engineering
Daisy Stever and Lisie Stephan Congdon, general
Coots-Larco Veterans, general
Harry F. Corbin, football
Sara Hyde Corbin, political science
Jess Cornejo/Cornejo & Sons, operation success
Lee Cornel, geology
Wayne Coulson, law
Chamber Fund for Art, art
Laura McMullen Cross Honorary, general
Paul T. and Mary Jane Curry, entrepreneurship
David Dearmore, athletics
Urban Derker, real estate
Cecil W. and Helen J. Dorman, business
Walter J. Duekien, music...
John W. Duren Football Memorial, general  
Paul V. Elliott, general  
Howard E. Ellson, music  
English Teacher's Endowed, education  
Gordon W. Evans Instrumental, music  
John L. Evans, pre-med  
Charles S. Evenson, business  
Sid Faires Memorial, education  
Foyd M. Farmer, education  
Foyd Farmer, athletics  
Louise Findlay, music  
Martha Fleming, dance  
Fletcher-McKinley, chemistry  
Helen Johnson Frank, general  
Howard Frazier Memorial, business  
Friends of Delta Upsilon, general  
Scharline and Lynette Furley, liberal arts  
Glen Gardner, general  
Sam Gardner, golf  
Edith A. Garlock, health  
Morris and Mary Garvin, music  
Merle Geist, athletics  
Paul H. Gerling Public Affairs Internship, political science  
Mabel Fay Gillespie, general  
R. L. Gillespie, general  
Jacob and Molly Glickman, general  
Golf Memorial, golf  
Harry Gore, general  
Henry and Helen Gott, music  
Harold and Eva Weiner Grafton, English  
Marie Graham, history  
Grand Army of the Republic, logopedics  
Charles and Helen Graves, general  
Benjamin F. Hammond, general  
Geraldine Hammond, liberal arts  
Herbert J. Hannam, education  
Donald R. Harbour, administration of justice  
Martin E. Harrison Football Memorial, general  
Mary Haymaker, English  
Frank Hedrick, golf  
Arthur J. Hoare, mathematics  
Carol and Elton Holman, flute  
Dr. Robert Holmer, education  
Richard H. Homburger Award for Excellence, business  
Myrl Houck Estate, general  
Grace Howell, journalism  
Earl R. Hutton, aeronautical engineering  
Earl R. Hutton, engineering  
Instructional Services Alumni, education  
Eunice Jones Isely, senior honor women  
Frank C. Isely, general  
William H. Isely, senior honor men, Col. James J. Jabara, general  
John C. and Maude James, engineering  
J. R. and Inez Jay, general  
Nicolas A. Jimenez Memorial, general  
Arthur and Annabelle Johnson, health  
Cheese Johnson, basketball  
Ronald G. Johnson Football Memorial, general  
Charles and Nina Kirby Jones, biochemistry/speech  
KBI Foundation Scholarship, continuing education  
Lee and Helen, kamen, liberal arts/political science  
Kappa Kappa Gamma, handicapped services  
Albert and Marion Katzenmeier, athletics  
Marvin B. Kaufman Memorial, business  
Marquette Keeley, women's basketball  
Randall B. Keisau Football Memorial, general  
John F. Kennedy Memorial, general  
Frank and Margaret Kessler, music  
Malory W. Kimmel Football Memorial, general  
Robert M. Kiskadden, art  
Christopher R. Komro, health  
Jay and Lilian Komfeld, music  
Susan M. Kraft, athletics  
Morris and Flossie Krouse, athletics  
Carl R. Krueger Football Memorial, general  
June M. Lari Endowment for the Arts, fine arts  
Robert and Dorothy Langenwalter, general  
Georgia Lewis, psychology  
Thurlow Lieurance, music  
Eugene W. Lightner, athletics  
L'il Egie, general  
Sally Duke Livingston, entrepreneurial  
George David Lodge, business  
Bob Long/Vince Lombardi, athletics  
William O. Long, general  
Anita Lusk, business  
Delano Maggard, Jr., general  
Charles and Amy Mahin, English/education  
Frank Clifford Malone Research, chemistry  
Dr. Robert F. and Judith Malone, health  
Sam and Mily Marcus, general  
Julianne Masters, theatre  
C. R. Mayfield, geology  
R. Wesley McCarty, political science  
John G. and Barbara McCune, health  
Clinton C. McDonald, science  
Lenora N. McGregor, general  
Marjorie Muster, math  
Men of Webster, general  
Dr. Daniel F. Merriam, geology  
Pearl J. Milburn, general  
Frank H. Miller, accounting  
Ralph Miller Fund, athletics  
Stephen A. Moore Football Memorial, general  
Marvin Munsell, anthropology  
Craig Murphy, English  
Carl Nath, baseball  
C. Henry and Ruth Nathan, journalism/speech  
Olive Baker Nease, general  
Frank A. Neff Memorial Award, business  
Henry J. and Tina Nickel, fine arts  
John M. and Neida Nickel, education  
Kenneth Northcutt, business  
Nygard Family Scholarship, health/education  
Conroy G. O'Brien, administration of justice  
Dr. Henry and Minnie Onsgard, history  
Thomas B. Owen, Jr., Football Memorial, general  
Marge Page, golf  
Robert T. Pate, education  
John N. Payne, business/education  
Charles G. Pearson, journalism  
Don Phillips, geology  
Physician's Assistant Student Society, health  
Pi Mu Epsilon, math  
Ola Osborn Piper, health  
Adrian Poultot, music  
Henry and Geri Allbritton Prakon, liberal arts  
Kern Pueves, golf  
Mabel A. Putnam, general  
Ruth Ann Reagan, music  
Thomas Reeves, athletics  
Tom Reeves Football Memorial, general  
WSU Regents Awards, general  
Richard and Jean Reidenbaugh, entrepreneurship  
Charlotte E. Renner, German  
Charles and James Rickman, liberal arts  
J. Dean Rickman, general  
Nettie Rickman, general  
Larry D. Ricko, geology  
Austin and Airline Rising, aviation management  
James P. Robertson, music  
Eugène Robinson Football Memorial, general  
Paul Christopher and John Timothy Rose, health  
Charles Rossdutcher, accounting  
Robert Ryan, economics  
John Rydjord Graduate Award, history  
F. C. Sauer, zoology  
Eugene Savaiano, liberal arts  
Sawahl Award for Excellence, fine arts  
Terry and D. J. Scanlon, political science  
John Schneider, music  
Diana Scott, geology  
Vera Hutton Seams, general  
Thomas F. Sheddan Football Memorial, general  
Ralph and Ina Shenk, physical sciences  
Sam and Rosemary Sherr, communicative disorders  
Shocker Marching Band, fine arts  
Sigma Alpha Iota, a lora  
Fritz Snodgrass, track  
Soroptimist of Wichita, general  
Sorosis Alumini Award, general  
Josephine A. Stabler, liberal arts  
Dave Stallworth, basketball  
Clayton Staples, art  
Walter L. Stauffer, real estate  
Steve Steffy, speech  
Harold Steincamp, geology  
Edgar Stewart, engineering  
Richard N. Stines Football Memorial, general  
Nora S. Stosz Memorial, business  
H. W. Sullivan Award, engineering  
Dr. Ronald Summers, athletics  
Sweat Friese, general  
Gladyes Taggart, physical education  
Paul Tasch, geology  
John and Mary Tallocek, geology  
John R. Taylor Football Memorial, general  
Teacher's Scholarship, education  
Gordon B. Terwilliger, music  
Thursday Afternoon Music Club/Mabel Wright, fine arts  
James Ray Trapp Memorial, engineering  
Andrea Uleberg, education  
Bill Umphrey, physical education  
Van Noy Scholarship, pre-med  
Harold J. and Mary Varhanik, engineering  
Wesley Women's Association, maternal/child nursing  
Wesley Women's Association, nursing  
Walter A. Ver Wiebe, geology  
Jack R. Vetter Football Memorial, general  
Vocal Performance Majors, music  
David Wainwright Memorial, ROTC  
Dwane and Velma Wallace, engineering  
Hazel Waipole, athletics  
Wichita Gem and Mineral Society, geology  
Wichita Oil Secretaries Association, business  
Ferr. Worden and Frederick Wieland, education  
Grace Wilkie Women's Scholarship, general  
J. Roscoe Williams, business  
George Winer, speech/drama  
Ben and Helen Wilson Football Memorial, athletics  
Mary Winvichbach, psychology  
Women's Aerocautical Association, engineering  
Frances O. Woodard, economics  
Ira Dean and Dixie Worden, business  
Jack R. and Barbara J. Worden, liberal arts  
Mack W. and Grace M. Worden, liberal arts  
Elmer and Mabel Worthington, music  
Paul R. Wunsch, music
Student Affairs

Structure
The Vice President for Student Affairs and Dean of Students is responsible for the coordination and supervision of the Division of Student Affairs. Issues involving student life, development, programs, problems and activities on The Wichita State University campus are addressed by the staff of the division.

The dean of Student Life and Services is responsible for the residence halls, off-campus housing concerns, handicapped services, fraternities and sororities, student organizations, preschool, veterans, women's activities, placement and career services, student health, student activities, counseling students with problems or concerns and encouraging scholastic achievement.

The dean of University College is responsible for the programs and policies of University College. (See the University College section of the Catalog.)

An assistant dean of students is responsible for Operation Success, Project Discovery and Upward Bound, the federal TRIO programs for educationally disadvantaged students. (See the Special Programs section of the Catalog for a more complete description of these programs.)

Orientation
Special orientation programs are presented through small-group interaction and discussions. For more details about the orientation program, see the University College section of the Catalog.

Counseling
The Counseling Center provides psychological services and counseling for personal and career/life planning issues. Professional counseling is available on a cost-shared basis to all members of the University community—students, their families, faculty and staff. Individual, couple, family and group counseling are aspects of the professional counseling services. Testing services are part of the Counseling Center's function. The credit by exam program and the National Testing program are administered directly by the Counseling Center. The National Testing program includes certification tests for community professionals, CLEP tests and entrance exams for colleges and graduate schools.

Office of International Programs
International Programs, 303 Grace Wilkie Hall, serves the special needs of approximately 1,000 international students from more than 70 countries enrolled at Wichita State. (For international student admission requirements, see the Admission to Wichita State section of the Catalog.) An orientation program specially designed for newly arriving foreign students prepares them for entrance into the American academic system and way of life.

International Programs also sponsors the International Conversation Partners Program, the Global Classroom Program and various other activities that promote interaction between American and foreign students.

In addition, the International Program houses a Study Abroad Center which provides information to American students on study, work and travel opportunities abroad. Information concerning Fulbright-Hays grants may be obtained from this center.

Placement and Career Services
The Placement and Career Services office provides services to students and alumni seeking career advice or employment-related assistance.

Individual career counseling is available to assist students and alumni with planning and decision making. Assessment instruments, including SIGI (a computer guidance system) are offered for self-assessment. Workshops, presentations and classroom instruction are offered to enable persons to learn about the responsibilities of various career fields, to prepare job resumes and letters of application, to conduct effective employment interviews and to make informed decisions.

Occupational and career information, employer directories, information on employment trends, employer recruiting literature, annual salary survey reports and information on graduate and professional school opportunities are available in the Career Resource Center.

Degree candidate and alumni placement services include direct referral to career employment vacancies; on-campus interviews with employer representatives; and an employment listing bulletin.

Placement services also include part-time and summer employment opportunities.

Housing
On-campus housing is available to over 850 students in two residence halls located on opposite sides of the Wichita State University campus. Housing options include an honors hall, graduate floor, quiet floors, single sex and coed floors. Because research nationwide has repeatedly shown that freshmen who live on campus are more successful academically than freshmen who do not live on campus, and because this research has been reinforced by evaluation of students' performance at Wichita State, new freshmen are required to live in a University residence hall, unless exempted. All other students may select their own accommodations; however, University housing is highly recommended. The Wichita State University housing policy states:

New freshmen who have graduated from high school within the past nine months must live in a University residence hall unless they are:

1. Married
2. Living with a parent or legal guardian
3. Living with a grandparent, uncle or aunt

Special exceptions to these regulations will be reviewed by the housing officials in the Division of Student Affairs. Admission to Wichita State does not mean automatic room reservation. Each student admitted will receive information concerning housing from the Office of Admissions and the proper forms must be filled in and returned to the housing office to reserve a room. Students are encouraged to apply early since space is limited.

Requests for information should be sent to:

Director of Housing
The Wichita State University
Wichita, Kansas 67208-1595

The Wichita State University reserves the right to make policy adjustments where the situation demands and to change the residence of any student or deny or cancel residence accommodations of any student in cases where such action is deemed desirable.

University Preschool
The University Cooperative Preschool is a licensed school for children of WSU students. Four certified preschool teachers and 20 part-time aides supervise activities which include art, language, music, science, numbers and literature. The school is available from 7:30 a.m. to 5:30 p.m. Monday through Friday for children 2 1/2 to six years old and 5 to 10 p.m. Monday through Thursday for children 2 1/2 to 12 years old. Each child must stay for a minimum of two hours per day. The program permits children to attend preschool while their parents are in class. It is available to the greater community as well.

Handicapped Services
The handicapped services office provides supportive services for students with impaired sensory, motor and/or speaking skills.

Student aid assistance during the
1987-88 school year has included note-takers, readers, library assistants, wheelchair pushers, test proctors, escorts, transfer assistants, transcribers and clerical services. Those interested in these services should contact the handicapped services office for updated information on such assistance. Auxiliary aids and materials available for student use include the Perkins Braillewriter, IBM Braille typewriters, slates and stylus, raised line drawing kits, the Speech Plus Calculator, Braille measuring instruments, mobility canes, print magnifiers, four track cassette tape recorder players with earphones, standard tape recorder players, phonographs, digital Braille clocks, lap boards, transccribing papers and blank tapes. Textbooks are ordered through this office for students requesting books on tape, in Braille or in large print. Tactile campus guides, Braille campus maps and manual wheelchairs for emergency use can be provided.

**Student Health Services and Hospitalization Insurance**

The Student Health Services in 209 Anhberg Hall provides ambulatory health care for students with health concerns, medical problems, illnesses and injuries. Clinic services and health education are provided by a staff of professional nurses and community physicians. The services of registered nurses and nurse practitioners are available during office hours and physicians may be seen by appointment during their scheduled clinic hours. Physicians specializing in ear, nose and throat, dermatology, gynecology, internal medicine, orthopedics, surgery and family practice are available.

Special services of immunizations, tuberculosis skin testing, family planning information, physical examinations required by academic programs, nutrition and diet counseling and health screening are offered.

The student body has chosen to participate in a group plan for accident and sickness insurance coverage. Opportunities to enroll in the program are offered at the beginning of each regular semester. Information is available at the Student Health Services and the Office of Student Life and Services.

### Special Programs

#### Center for Economic Development and Business Research

The Center for Economic Development and Business Research, a service of the Barton School of Business, engages in business-economic research for a wide variety of clients in both private and public sectors. The center gathers, analyzes and publishes data describing economic conditions in Wichita and Kansas and is the sole source of comprehensive monthly economic data for the state. The center's staff of faculty and graduate and undergraduate students works together on policy-oriented research and publications, publishing the quarterly _Business & Economic Reports_ alternately with the monthly _Kansas Economic Indicators_.

#### Center for Continuing Engineering Education

The Center for Continuing Engineering Education has as its objectives:

1. Providing noncredit engineering education for professional development or occupationally/professionally related purposes.
2. Cooperating with the engineering professions and related professional associations to provide specialized courses and certificate programs.
3. Sponsoring, developing and cooperating in programs and activities that extend the resources and knowledge of the University to industry, special audiences and the general public.

#### Center for Continuing Health Education

The Center for Continuing Health Education, a unit of the College of Health Professions, provides continuing educational opportunities for members of the nursing and allied health professions in Kansas. Through workshops, seminars and conferences, many offered in conjunction with local or state health and social agencies, the center and the college's educational programs provide current information on philosophy, practice and new developments in the health professions.

#### Center for Entrepreneurship and Small Business Management

The Center for Entrepreneurship and Small Business Management is within the Barton School of Business, soon to be housed in Devlin Hall. The center is committed to promoting an environment that encourages private enterprise and that seeks to preserve and enhance entrepreneurial activities. The center provides a comprehensive curriculum in entrepreneurial studies, offering a minor in entrepreneurship to business majors.

Seminars and workshops are offered for those interested in entrepreneurship. The most popular workshop, "Entrepreneurship: Your Future in Business," has received international recognition.

Additional features include a visiting lecture series, a complete library of resource materials and the Association of Collegiate Entrepreneurs and the Young Entrepreneur's Organization, a resource and information base for innovative students and a network for young entrepreneurs.

The center is conducting a major research project to learn the effects of entrepreneurial education on new business start-ups and success rates, as well as a profile of individuals who start a business.

#### Center for Human Appraisal

The Center for Human Appraisal operates as a service of the Barton School of Business to extend research attitudes and interests in the behavioral sciences and apply that knowledge to governmental agencies and the business community. Projects undertaken by the center include management surveys, assessment programs, supervisory selection, selection for promotions, morale research, supervisory training and general research on people systems.

#### Center for Management Development

The Center for Management Development, through the Barton School of Business, offers noncredit management development seminars to the business community.

The WSU management seminars and workshops have been acclaimed for their usefulness to practicing business people and other professionals in a wide variety of organizations. The center offers a broad range of management education and development opportunities to the growth-oriented supervisor, manager or professional specialist in business, industry, government and other public or private organizations.

#### Center for Women's Studies

The Center for Women's Studies serves as a catalyst to promote an environment that encourages and supports women's efforts to participate in education, employment, careers and decision making in all areas and on all levels. The student body has chosen to participate in a group plan for accident and sickness insurance coverage. Opportunities to enroll in the program are offered at the beginning of each regular semester. Information is available at the Student Health Services and the Office of Student Life and Services.

The Center for Women's Studies serves to promote research and other activities related to women and their concerns. The center maintains a small resource library of books and periodicals open to students, faculty and others; sponsors
seminars, workshops and lectures; and provides community and campus speakers.

Cooperative Education Program
The Cooperative Education program is a University-wide, centrally administered academic program providing students the opportunity to integrate formal course work with periods of relevant off-campus employment. More information is available in the Special Academic Areas section of the Catalog.

French Student Exchange Program
WSU is among the 100 colleges and universities in the United States that participate in the annual student exchange program organized by the French Ministry of Education. One individual from WSU spends the academic year in France as a salaried assistant in English, and a student from France is attached to the WSU Department of Modern and Classical Languages and Literatures as a salaried assistant in French. Majors and minors in French who have graduated within one year prior to departure date are eligible to apply.

Hugo Wall Center for Urban Studies
The Wichita State University’s role as a comprehensive urban institution was outlined by the Kansas Board of Regents in 1972: “As the Regents’ urban institution, the Wichita State University’s mission includes development of programs utilizing the unique resources of the urban area.”

The Center for Urban Studies was formed in 1955 and has become a leading contributor to the urban mission articulated by the Board of Regents. The center conducts instruction, research and service programs, integrating these three essential University functions in responding to the needs of students and the urban environment. The Master of Public Administration degree is administered through the center and its faculty in public administration and urban affairs. Service programs of the center include public affairs seminars, workshops for governmental personnel, professional development seminars for governmental managers and a variety of other programs designed to link the resources of the University to urban governments. The faculty and staff of the center are engaged in a wide range of research on state and local government in Kansas, including research and analysis of boards and commissions in Sedgwick County, a history of the property tax in Kansas, a labor market analysis to guide economic development policy in the City of Wichita, an assessment of productivity in the City of Wichita, a political history of Wichita and a study of service delivery of the Wichita-Sedgwick County Department of Community Health.

The Hugo Wall Center for Urban Studies coordinates the University’s State Census Data Center as part of a five-member statewide consortium. The Data Center is the repository of 1970 and 1980 census data and responds to requests for census data.

Institute for Aviation Research
The Institute for Aviation Research was approved by the Kansas Board of Regents in fall 1985. It represents a focus for research with the University and a vital link with local and national aviation communities. The institute works through five centers:

1. Center for Basic and Applied Research which conducts research in the basic areas of aviation, with a focus on low speed aerodynamics, flight simulation, structures and advanced materials for airframe construction.

2. Center for Aviation Safety Research which conducts research on topics related to aviation safety, with a focus on crashworthiness of aircraft structures, delcing, stall-spin prevention and aviation software reliability.

3. Center for Productivity Enhancement which supports research and technology transfer in computer-aided design, computer-aided manufacturing, robotics, artificial intelligence, use of composite materials and related manufacturing technologies.

4. Center for Management and Human Resource Development which conducts research on issues of quality control, analysis and forecasting and international marketing as applicable to the aviation industry.

5. Center for Aviation Education and Training which provides educational, training and publication programs to aid in the transfer and dissemination of knowledge developed with the other centers of the institute.

Marcus Center for Continuing Education
Many educational services are offered through the Marcus Center for Continuing Education, an adult education facility at 4201 East 21st Street. Specialized courses for business and industry, governmental agencies and the professions; special conferences for the general public; and a wide variety of personal enrichment programs are offered in the center. In addition to renting meeting areas, the Marcus Center for Continuing Education staff provides program development, brochure preparation, mailings, fee collection, material preparation and reproduction, registration and program evaluation.

Operation Success, Project Discovery, Upward Bound
Operation Success, Project Discovery and Upward Bound are special programs designed to help students prepare for University life and successfully complete their courses of study.

Operation Success provides academic support services which assist students to persist and graduate from WSU. It is a federally funded program providing comprehensive, one-on-one tutorial help; personal counseling; career guidance; and assistance in the development of study skills for disadvantaged students who are first generation university students and meet specific income guidelines. The program serves 250 students each year and has been in operation at WSU since 1970.

Project Discovery, a federally funded Talent Search Program, was established at The Wichita State University in July 1977. The project assists approximately 1,500 low-income people in gaining admission to postsecondary institutions throughout the nation. Specific help is provided with admission forms, financial forms and registration for ACT/SAT assessments examinations. The project’s two offices at Wichita State and Coffeyville Community College serve high schools and community agencies in Wichita and 12 counties in southeast Kansas.

The Upward Bound program is a federally funded program that has been at WSU since 1966. The program, titled Wichita Prep, assists high school students from low-income backgrounds who have academic potential but inadequate secondary school preparation. The high school sophomores, juniors and seniors participate in an intensive six- to eight-week summer and academic year schedule to improve academic and social skills. Assistance includes tutorial assistance; academic, career and personal counseling; post-secondary admission; and classes and workshops.

Research Administration
The Office of Research Administration assists the faculty in developing sponsored research, training and other service proposals. The office collects, maintains and provides information regarding the programs, interests and needs of governments, private founda-
The CAC has several dining areas to meet the needs of various groups on campus. The reservations office schedules the use of all facilities in the center as well as the community center for The Wichita State University. Many of the University's special facilities are described on the following pages.

Small Business Development Center
The Small Business Development Center, through the Barton School of Business, was established in October 1983. The SBDC provides free counseling and low-cost training to small businesses using consultants from the University as well as the community. Funding for the center is provided by the U.S. Small Business Administration, the State of Kansas, the Defense Logistics Agency and participating universities and colleges.

The center at WSU works with businesses located in the 17 counties of southcentral Kansas. The center here is also the headquarters of the state office, the Kansas Small Business Development Centers, which oversees activities of the eight regional SBDCs and 11 associated centers in Kansas. These 19 centers are located primarily at academic institutions throughout the state.

Small Business Institute
The Small Business Institute is housed within the Barton School of Business. Its purpose is to bring together the student's knowledge and the small business experience on a consultation basis. Such interaction rounds out the senior student's education with practical experience while offering assistance to small businesses in the community.

University Gerontology Center
The University Gerontology Center develops and coordinates gerontology-related activities and programming at Wichita State, including instruction, research, service and continuing education. The center develops and manages community research in the area of aging and serves as a resource center and information clearinghouse to assist community agencies and organizations in planning and developing services for older persons.

University Press of Kansas
The University Press is operated jointly by six state Kansas universities: The University of Kansas, Kansas State University, The Wichita State University, Emporia State University, Fort Hays State University and Pittsburg State University. Founded July 1, 1967, it was the first university press in the United States to function on a statewide level under specific sponsorship of all of the state's universities. Offices are located on the campus of The University of Kansas in Room 303, Carruth-O'Leary Hall.

WSU Center for Energy Studies
The WSU Center for Energy Studies conducts energy research with particular emphasis to Kansas applications. Current areas of specialization are wind energy, electric utility and conservation research. Research in the engineering and technical use of microcomputers is also conducted. The center is directed by the College of Engineering.

Special Facilities
Instructional facilities on the 330-acre Wichita State campus are used for educational purposes more hours per day than at any other Kansas college or university. Many of the University's special facilities are described on the following pages.

Ablah Library
Through a wide range of materials, services and facilities, Ablah Library supports WSU courses and research. Its growing collection of more than two million items includes not only books and periodicals, but microforms, corporate annual reports, college catalogs, phonograph records and audio tapes. The library also serves as a depository for selected official publications of the United States.

The library has open stacks, and reference librarians help students and faculty locate information and use the online catalog and reference collection. They also perform literature searches in the numerous computerized data bases to which the library has access. Materials not owned by the library may be borrowed from other institutions through interlibrary loan. The library also makes available study carrels, electronic carrels containing listening and viewing equipment, group-study rooms, microform reading equipment, copy machines and typewriters.

The Department of Special Collections houses a rapidly growing manuscript collection of more than 700,000 pieces including papers of the abolitionist William Lloyd Garrison and many U.S. congressmen. Other collections include original editorial cartoons by Pulitzer prize-winning cartoonists, publications of U.S. radical organizations and maps and books.

A three-year expansion/renovation project of Ablah Library is scheduled to be finished early in 1989. When completed, the library will have additional space for its collections and for new and expanded services.

Computer Laboratory Facilities
The Department of Electrical Engineering in the College of Engineering has a microcomputer laboratory consisting of fourteen Zenith 151 or 158-XT compatible microcomputers and eight printers. Each microcomputer has a 20MB hard disk, flexible disk drive, color display and 640KB RAM. Software packages include word processing and spread sheet with graphics, as well as systems...
analysis programs written by department members, which are installed and
copy-protected on the hard disks and accessible for student use. Two computers
are equipped with sampling hardware and a software package for investigating the sampling process and
associated digital signal processing.
Another computer has an interface which allows it to access the University
mainframe.
The facility is used by electrical engineering students for report writing, tabular
and graphical display of laboratory data, and analysis and design of electronic and control systems.
Computing Center
The University Computing and Telecommunications Center serves students, faculty and staff of the University by
providing contemporary computing services for instruction, research and sponsored programs, administrative data
processing and public service. These services include consultation, systems analysis and design, programming,
time-sharing, batch computer operations, an on-line administrative data base and assistance to computer
users in their preparation of requests for competitive bids for the acquisition and selection of computer-related equipment.
The central processing unit is an IBM 3081-D with 16 million characters of main storage and more than 26 billion
characters of on-line disk storage. Magnetic tape drives, line printers and an off-line digital plotter are available for
genral use. A network of more than 500 terminals provides interactive computing for campus classrooms, laboratories and
offices. These terminals may be used with the academic time-sharing system (CMS), interactive computer graphics, computer-assisted instruction and the administrative terminal system (CICS). Interactive terminal facilities for students and faculty are located in Abiah Library, the Barton School of Business, the College of Engineering, the departments of chemistry, mathematics, physics, geology and anthropology and in the Social Science Laboratory, where a line printer is located. More than 700 microcomputers are integrated into the instructional and research areas on campus. Facilities are available to permit transfer of information between the central computer and microcomputers equipped for communications.
The computing center terminal facility is located in Neff Hall. Color graphics terminals, a color graphics printer and several other CRT terminals are available in Room 114. CRT terminal facilities and hard copy terminals are located in
Room 113. Both rooms are open and available 24 hours a day, seven days a week. Scientific programming and consulting
services for faculty and staff instructional and research projects are located in Room 119. Student programming
assistance and academic user services are located in Room 115. Batch and remote batch jobs may be submitted
to the dispatcher window at Room 108 during scheduled hours.

Edwin A. Ulrich Museum of Art
The Edwin A. Ulrich Museum of Art is recognized nationally for the outstanding quality of its programs. In 1984, approximately 135,000 people visited its galleries. During its first 13 years of existence, the Ulrich Museum has presented more than 400 exhibitions, ranging in scope from the poetic paintings of Joan Miro to the hyper-realist sculptures of Duane Hanson.
The museum has had one-person exhibitions of work by Joan Miro, David Hockney, Milton Avery, Kenneth Noland, Morris Louis, Isabel Bishop, Frederic Church, Childe Hassam, Alice Neel, Robert Motherwell, Alberto Giacometti, Gaston Lachaise, plus the work of many other famous artists. Although the emphasis has been on contemporary art, there have been exhibitions as diverse as prehistoric American Indian pottery, treasures from Spanish galleons sunk in 1724, art from 16th and 17th century Antwerp, artifacts from the Civil War ironclad U.S.S. Monitor, holography, electronic art, African art and the art of New Guinea. In addition, there have been numerous photographic, print and ceramic exhibitions.
The on-campus museum is named after Edwin A. Ulrich, a retired New York businessman, who gave the University more than 300 paintings and $500,000 to support the collection. The Ulrich gift, valued at $1.75 million, is one of the largest single donations ever made to the University.
The Wichita State University Endowment Association art collection numbers over 6,000 items. Twentieth century American art forms the core of the collection augmented by hundreds of other paintings, drawings, prints, sculptures, photographs and ceramics. Of special note, the Ulrich Museum contains the most complete collection of paintings by the world famous American marine artist, Frederick Judd Waugh (1861-1940). The museum also houses extensive groups of work by such artists as Kathe Kollwitz, Charles Grally, Harry Sternberg and Robert Goodnough.
Reaching beyond the traditional museum's walls, the University has an outdoor sculpture collection which is one of the best in the nation. The collection is a cross-section of 20th century sculpture, featuring works by Auguste Rodin, Henry Moore, Louise Nevelson, Joan Miro, George Rickey, Fernando Botero, Barbara Hepworth, Chaim Gross, Theodore Roszak, William Zorach, Ernest Trova, Robert Indiana, Luis Jimenez, Lynn Chadwick and many others. The largest and most significant outdoor work is the marble and glass mosaic, Personnages Oiseaux created especially for the facade of the Ulrich Museum by the late Spanish artist, Joan Miro. The mosaic, the largest in the work by Miro, is constructed of one million pieces of colored Venetian glass. Another aspect of the museum is its visiting artist program: More than 50 artists have visited WSU, including Henry Moore, Louise Nevelson, Luis Jimenez, Isabel Bishop, Duane Hanson, Gordon Parks, W. Eugene Smith, Arnold Newman, Milton Glaser, Paul Rand, Alice Neel, Theodore Stamos and Will Barnet. The museum also has organized traveling exhibitions of work by such artists as Duane Hanson, Gordon Parks and Ernest Trova.

Harvey D. Grace Memorial Chapel
Harvey D. Grace Memorial Chapel, located in the heart of the campus near Morrison Hall and the Campus Activities Center, was built in 1963 and dedicated to serve all creeds and races. The chapel is available to students for group or individual worship and meditation.

Helpern International Center
The Milton Helpern International Center for the Forensic Sciences serves as a vital resource of the Department of Administration of Justice and as an important depository of information relating to major forensic cases in the United States and abroad. Under the direction of Dr. William Eckert, the center serves as an important information source for forensic scientists and law enforcement agencies working to solve major criminal cases. The center also serves the needs of students majoring in the department. Its resources include extensive library material, tapes and other documents pertaining to major forensic cases. The center is located in the Liberal Arts and Sciences building.

Heskett Center
The $10 million multipurpose dance, physical education and recreation complex opened in the spring of 1983. It is named after H. D. Heskett, a 1935 alumnus and benefactor of WSU.
The laboratory is located in the Liberal Arts and Sciences building. Equipment includes several CRTs, Decwriters and a high-speed printer, all connected to the University's mainframe. The laboratory is open to students, faculty and social science classes.

**Reading/Study Skills Center**

Wichita State offers a variety of services to students through the programs of the Reading/Study Skills Center. Credit and noncredit courses are offered to help students improve their reading and listening skills. Complete descriptions of the credit and noncredit courses offered at the center are included in the University College section of the Catalog.

In addition to formal course work, other study skills workshops are made available to students enrolled at Wichita State.

**Rehabilitation Engineering Center**

The Kansas Board of Regents formally established the Rehabilitation Engineering Center in the WSU College of Engineering during 1978. The objective of the center is to use technology to improve the vocational prospects of the severely disabled.

A qualified engineering staff, along with a rehabilitation laboratory, technicians and a well-equipped shop facility, provides the means to accomplish the center's goals. A federally sponsored rehabilitation grant allows faculty and staff to participate actively in this research.

**Satellite Television Reception**

Four satellite television antennas are used to receive video and audio signals from communications satellites serving North America. Satellite television resources provide students studying foreign languages with television programs produced for French and Spanish speaking audiences, furnish programming for WSU's cable television station and enable the University to participate in national video teleconferences. Receiving antennas are located to the southeast of Media Resources Center.

**Social Science Research Laboratory**

The Social Science Research Laboratory supports both instruction in research methods and student and faculty research in the social sciences. In addition, with the use of an optical scanner, examinations for classes across campus are graded and item analyzed. The Student Perception of Teaching Effectiveness (SPTE) questionnaire is administered, scored and managed by the laboratory.

The laboratory is located in the Liberal Arts and Sciences building. Equipment includes several CRTs, Decwriters and a high-speed printer, all connected to the University's mainframe. The laboratory is open to students, faculty and social science classes.

**Speech-Language-Hearing Clinic**

The Wichita State University Speech-Language-Hearing Clinic, 104 Hubbard Hall, provides diagnosis and treatment of speech, language and hearing problems, including hearing aid fittings. Services are available on a cost-shared basis to University students, staff and faculty, as well as residents of surrounding communities. The clinic is open 8 a.m. to 5 p.m. Monday through Friday for scheduled appointments and also on arranged evenings for hearing testing and stuttering and other support group meetings. Senior and graduate students in the communicative disorders and sciences department provide services. All work is supervised by departmental faculty who hold appropriate national certification.

**Sports and Recreation**

Sports and recreation facilities for students at Wichita State include a regulation 18-hole golf course; the 10,666-seat Henry Levitt Arena which is used for intercollegiate basketball games and major entertainment events; Cessna Stadium, a 30,000-seat stadium; and Eck Stadium which has an artificial surface and grass outfield for Shocker baseball.

Wichita State is a member of the Missouri Valley and Gateway Athletic Conferences and consistently ranks nationally in basketball, baseball, tennis and bowling.

The campus recreation program, featuring the multipurpose complex, the Heskett Center, is designed to provide activities for all students, faculty and staff. In addition to intramurals and open recreation time, offerings include sport clubs; special events; excursions for children of WSU students, faculty and staff; a family program; mini-classes and workshops; outdoor recreation and aquatics.

**Walter H. Beech and Supersonic Wind Tunnels**

Various wind tunnels are available at Wichita State for faculty and student use in aerodynamic studies. The Walter H.
Wichita State University, (316) 689-3480.

Fraternities and Sororities
Six national sororities are active at the University: Alpha Kappa Alpha, Alpha Phi Delta Delta Delta, Delta Gamma, Delta Sigma Theta and Gamma Phi Beta. Thirteen national fraternities are also on campus: Alpha Phi Alpha, Alpha Tau Omega, Beta Theta Pi, Delta Upsilon, Kappa Alpha Psi, Kappa Sigma, Phi Beta Sigma, Phi Delta Theta, Pi Kappa Alpha, Sigma Alpha Epsilon, Sigma Nu, Sigma Phi Epsilon and Omega Psi Phi.

Organizations
Honorary
Alpha Lambda Delta
Alpha Epsilon Rho
Alpha Kappa Delta
Alpha Mu Phi
Beta Alpha Psi (Epsilon Tau Chapter)
Beta Gamma Sigma
Delta Sigma Rho—Tau Kappa Alpha
Emory Lindquist Honors Society
Eta Kappa Nu
Golden Key National Honor Society
Honor Society
Kappa Delta Phi
Kappa Kappa Psi
Lambda Alpha Mortar Board
Mu Phi Epsilon
Omicron Delta Epsilon
Omicron Delta Kappa
Phi Alpha Theta
Phi Delta Kappa
Phi Eta Sigma
Phi Kappa Phi
Phi Sigma Tau
Pi Delta Phi
Pi Epsilon Delta
Pi Mu Epsilon
Pi Omega Pi
Pi Sigma Alpha
Pi Tau Sigma
Psi Chi
Senior Honor Men
Senior Honor Women
Sigma Alpha Iota
Sigma Delta Chi
Sigma Delta Pi
Sigma Gamma Epsilon
Sigma Gamma Tau
Sigma Pi Sigma
Sigma Theta Tau (Epsilon Gamma Chapter)
Spurs
Tau Beta Pi
Tau Beta Sigma
Who's Who in American Universities and Colleges

Professional and Departmental
Administration of Justice Association
Administrative Management Society
Advertising Club
Agricultural Marketing Association, WSU Chapter of the National AIESEC
Alpha Kappa Psi
American Institute of Aeronautics and Astronautics
American Society for Mechanical Engineers
American Society for Personnel Administration
Anthropology Club
Art Education Club
American Society of Heating, Refrigeration and Air-Conditioning Engineers
Association of Collegiate Entrepreneurs
Association for Computing Machinery
Biology Club
Charla Espanola
Chemistry Club
Debate Society
Dental Hygiene Association, Junior American
English Graduate Student Association
Geology Club
German Club
Health, Physical Education, Recreation Majors Club
Industrial Education Club
Institute of Electronics and Electrical Engineers
Institute of Industrial Engineers
Jazz Educators, National Association of KANS (Kansas Association for Nursing Students)
Le Cercle Francais
Legal Assistants Society
Linguistics Society
Medical Technology Students Society
National Student Speech and Hearing Association
Panhellenic Council
Phi Delta Gamma
Philosophy Society
Pi Sigma Epsilon (Gamma Theta chapter)
Political Science Club
Political Science Graduate Student Association
Potters Guild
Psychology Graduate Student Organization
Public Administration, Graduate Student Association of
Rho Epsilon
SKNEA (Student Kansas National Education Association)
Society for Automotive Engineers
Society of Manufacturing Engineers
Society of Professional Journalists
Society of Women Engineers
Stammtisch
Student Advisory Council for Nursing
Student American Academy of Physician Assistants
Student American Denial Hygienist Association
Student American Federation of Teachers
Student Chapter of Women in Communications, Inc.
Student Music Educators National Conference
Student Music Teachers Association
Student Physical Therapy Organization
Student Physics Society
Student Organization of Social Workers
WSU Chapter of U.S. Committee on UNICEF

Special Interest
A Cappella Choir

Admissions Corps
African Student Association
Alliance Français
Amnesty International
Ananda Marga Yoga Society
Aquatics Club
Baha’i Club
Baptist Student Union
Brass Chamber Ensemble
Campus Girl Scouts (Trefoil)
Chamber Singers
Chess Club
Chinese Association of WSU
Christian Science Organization
Circle K (Kiwanis)
College Republicans
Collegiate Democrats
Concert Band
Concert Chorale
Crew Club
Ecumenical Christian Ministries, Inc.
Episcopal Church of WSU
Experimental Theatre
Fellowship of Christian Athletes
Flying Club
French Study Group
Friends of Africa
Friends of Women’s Studies
Frisbee Club
Gay/Lesbian Resource Association
Greek Student Association
Handicapped Students, Association for Hellenic Society
Icthus
Indian Student Association
Indonesian Student Association
International Association of WSU
Intervarsity Christian Fellowship
Japanese Student Association
Jazz Arts I
Jazz Arts II
Jazz Combos
Juggling Club
Korean Student Association
Latter Day Saints Student Association
Madrugal Singers
Malaysian Student Association
Mecha—Movimiento Estudiantil Chicano de Aztlán
Men’s Soccer Club
Mid-America Dance Theatre
Minority Engineering Students Organization
Minority Pre-Health Student Association
Model United Nations
Muslim Student Association
Native American Heritage Association
Nurses Christian Fellowship

Opera Theatre
Pakistani Student Association
Pathfinders
Percussion Ensemble
Physical Therapy Student Christian Fellowship
St. Alban’s University Parish
St. Paul’s Newman Center
Saxophone Quartet
Skiing Club
Spanish Club
String Ensemble
Student Crime Watch
Student Orientation Leaders Association
Students Against Multiple Sclerosis (SAMS)
Student Alumni Association
Symphonic Band
Syrian Student Association
Tai Chi Club
Thai Students Association
University Forum Board
University Lutheran Center
University Orchestra
University Theatre Main Stage
Veterans on Campus
Vietnamese Student Organization
Wichita Film Society
Wichita Rangers
Wind Energy Club
Wind Ensemble
Women’s Resource Center
Woodwind Ensemble
WSU Spirit Squad
WSU Summer Theatre
Young Democrats
Young Life

Governing
ASK—Associated Students of Kansas
Brennan Community Association
Campus Activities Center Activities Council (Student Activities Council)
Engineering Council
Fairmount Community Association
Interfraternity Council
Interresidence Council
Pan-Hellenic Association
Panhellenic Council
School of Music Student Council
Student Government Association
Student Publications, Board of Student Senate and Senate Committees
Wichita State has an ongoing program to provide full access to all buildings for the handicapped, however, some barriers still exist in these designated buildings. For information regarding any campus building’s accessibility to the handicapped, call the Office of Handicapped Services, (316) 689-3298.

** Visitors to the Wichita State campus should obtain temporary parking permits from the Police Department, Clough and Bremner.
University College

William W. Harmon, PhD, Dean

The primary goal of University College is to assist students in their educational endeavors by providing relevant support services. Responding to the diverse needs and goals of both degree and nondegree-bound students, University College is designed to be responsive to the unique needs, responsibilities, and learning styles of adult students. It is well-conceived and flexible system of programs and services.

Students in University College are enrolled in courses offered by departments in the degree-granting colleges and taught by faculty from those departments. Exceptions are the credit or non-credit courses offered by University College.

University College is the academic home for (1) all freshmen working toward degrees; (2) those transfer students who have not completed 24 semester hours with at least a 2.00 grade point average or who have not declared academic majors; (3) nondegree-bound adult students; (4) guest students attending other colleges and universities who wish to enroll at Wichita State on a temporary basis (for one term only); and (5) selected high school students who have the consent of their high school principals.

Degree-bound students are provided with academic support services which will enable them to make successful transitions to degree-granting colleges. While enrolled in University College, those who are seeking degrees are expected to develop educational planning skills, remove high school deficiencies, develop effective study skills and habits, choose an academic major, develop personalized academic and career/life plans and complete part of the general education requirements.

Nondegree-bound students receive services designed to be responsive to the unique needs, responsibilities, and learning styles of adult students. Programs, policies and procedures emphasize ease of access to the University and its resources and opportunities for individual assistance.

Services focus on individuals who want to take courses for self-enrichment, job advancement, career change, general updating or professional certification. Academic and career advising are also provided for those students who may decide after initial enrollment to work toward a degree.

University College services include orientation and educational planning programs; registration, advising and consultation; reading and study skills courses; adult seminars and career exploration seminars for individualized assessment and vocational exploration.

Admission to University College

Degree-bound Students: For more information on general University admission requirements, see the Admission to Wichita State section of the Catalog.

Nondegree-bound Students, Regular: Students who are not currently working toward specific undergraduate degrees at Wichita State are admitted as regular nondegree-bound students. To be admitted, they must submit high school transcripts or GED scores—and if they have attended college, college transcripts—to the Wichita State admissions center. Failure to report all previous schools attended will result in dismissal.

Nondegree-bound Students, Special (Open Admission): Adults may be admitted as special open-admission students for a maximum of 15 hours if:

1. They have graduated from high school and have not attended any school for two years or
2. They have not graduated from high school and are at least 21 years of age or
3. They are currently on active military duty or
4. They hold a baccalaureate or higher degree.

Students admitted under the open-admission policy need only submit an application for admission. Test scores and transcripts are not required.

Students admitted under the open-admission policy will be considered nondegree bound for the first 15 semester hours. In order to pursue work beyond the semester in which the 15th hour is completed, students must declare themselves to be regular nondegree students in University College or they must apply for admission as degree-bound students in University College or one of the degree-granting colleges of the University. Transcripts of previous high school or college work (or GED scores) will be required at this point.

Orientation

Orientation and educational planning programs help new students become a part of the learning community and teach the requirements, expectations and procedures of that community. The programs assist students in thinking through and developing written plans for their personal development, education and future careers.

Specially selected student leaders and faculty members are carefully trained to work with new students in small groups during orientation.

Degree-bound Students: Because orientation and educational planning are not preludes to education, but rather are a part of college education itself, all first-semester degree-bound University College students are required to attend an academic orientation and to participate in personal planning sessions. A required, nonrefundable orientation fee is charged to all students and includes payment for the Wichita State University Catalog and a special guidebook. Orientation programs are scheduled in advance of the fall and spring semester and Summer Session. Information about orientation and registration is sent by University College to all students who have been admitted to University College.

Nondegree-bound Students: Orientation programs are available, and recommended, for nondegree-bound students. PD 100A, Adult Seminar, a class designed for adults who have been out of school for one year or more, is also available as an enrollment option. Parts of the course serve as an ongoing orientation and the class is offered fall and spring semesters. Contact University College for more information.

Academic Advising

Academic advising is more than class schedule building. It is a shared relationship between student and adviser that is an essential part of the university experience. As with any good relationship, each must contribute to make it work effectively.

Degree-bound Students: Every semester all degree-bound students enrolled in University College are expected to develop academic plans with the assistance of their academic advisers. Each degree-bound student is assigned an academic adviser. When a student declares a major field of study, he or she is assigned a faculty member in the academic department offering that area of study. Students who have not declared majors are assigned to faculty from the various departments, to academic counselors in University College or to faculty members in the Division of Student Affairs.

Students planning on professional
graduate-level studies (medicine, law, theology, etc.) are assigned to qualified faculty advisers in the selected preprofessional areas for developing strong undergraduate preparation. Students should check with their assigned advisers to see what preprofessional courses should be taken while they are in University College.

Nondegree-bound Students: Nondegree-bound students are not normally required to see an adviser or counselor for course approval before registration if they meet course prerequisites. However, students are encouraged to seek advice if they have questions or uncertainties about the type of course in which to enroll. Those students who are considering the possibility of transferring to degree programs at a later date should discuss their plans with an academic counselor to be sure that they are developing the best possible educational foundation.

Career/Life Planning

Degree-bound Students: A career/life planning emphasis helps degree-bound students begin to develop systematic career plans after realistically assessing their interests, values and capabilities.

University College academic counselors assist students in the exploration of the academic curriculum in preparation for their career choices. The counselors also help to identify people and information resources for further information on academic majors and/or career options. A course in career exploration is offered as part of the program.

Nondegree-bound Students: career/life planning activities are designed to provide nondegree students with support for exploration, clarification, decision making and follow-through in issues related to self-enrichment, job advancement, career change, general updating or professional certification. Specific activities include personal and group consultations, using resource materials, interest testing and referrals. Credit courses, including Adult Seminar and Topics in Career Exploration, are offered as part of this emphasis.

General Education Program

Degree-bound students at Wichita State are required to enroll in a specific number of semester hours of general education courses. Wichita State's requirements are based on the conviction that college graduates should be exposed to a broad sampling of knowledge about themselves and the world—not a narrow discipline of knowledge and skills.

Specifically, the general education program offers a variety of opportunities to acquire and apply knowledge, to think critically, to solve problems, to clarify values, to communicate within a variety of settings and to understand the role of science, technology, and the arts.

The general education program is the means by which students obtain knowledge and skills which are permanent, practical and transferable, and which cannot be rendered obsolete either by changes in technology or by the expansion of knowledge. These are the key elements of a university education which are intended to prepare a student not for the first job after graduation, but for a lifetime.

Nondegree-bound students are eligible also to take advantage of the opportunities offered through the general education program. Students are invited to visit with an academic counselor in University College to learn more about the classes which make up this program. Students considering the possibility of a degree program at some future date should be aware of the manner in which general education fits into a degree program.

Policies

First Semester—Transition Semester

Because there is a special period of transition and adjustment to university life, students in their first semester of college work may choose a special option of translating letter grades into credit or no credit at the conclusion of the first semester, as discussed under the Academic Information—Transition Semester section of the Catalog.

Advanced Placement and Credit

WSU students may earn credit toward a degree by satisfactory achievement on specific tests. Scores on the American College Test (English and mathematics), Advanced Placement Program, College-Level Examination Program (all general and certain subject examinations) and the Proficiency Examination Program (specific tests) may be presented for evaluation. For full details, consult the coordinator of testing in the Counseling Center.

Student Responsibility

Students are expected to familiarize themselves with course prerequisites, enrollment dates, procedures and all other policies stated in the current Catalog and in the Schedule of Courses.

Once students have enrolled in a course, they are officially entered in that course. Students must either withdraw from the course by completing and filing an official drop slip or they must complete the course. If students fail to withdraw or complete course requirements, they receive F grades on their transcripts. (See Academic Information in the Catalog for full details about grading policies, incompletes and similar policies.)

Transferring to a Degree-Granting College

Degree-bound Students: All students seeking a degree are expected to qualify for transfer to one of the six undergraduate degree-granting colleges at the end of the semester in which they complete 24 semester hours. To qualify for transfer to a degree-granting college, a student must have completed 24 semester hours successfully, met the minimum GPA required by the college and successfully completed any prerequisite courses.

Students who have declared a major and who qualify for transfer into the colleges of their choice are transferred automatically.

Degree-bound students may not continue in University College after the semester in which they complete 48 semester hours.

Nondegree-bound Students: Those students not seeking degrees may remain in University College beyond 48 hours by filing and having approved a petition of intent for nondegree status with the Dean of University College.

Those who subsequently wish to work toward Wichita State baccalaureate degrees may transfer their credits to an undergraduate degree-granting college. In transferring to another college, students must meet the admissions requirements established by that college.

Probation and Dismissal Standards

Probation: Since a 2.000 (C) average is required for graduation, students are placed on academic probation whenever they have attempted six hours and their cumulative grade point average falls below 2.000. (An explanation of terms used in this section is found in the Academic Information section of the Catalog.) The transition semester counts toward the number of hours attempted but does not count in the calculation of the grade point average used to assess probation or dismissal.

Transfer students admitted on probation must complete at least 12 semester hours of credit work, achieve a 2.000 grade point average on work at Wichita State and have a 2.000 cumulative grade point average before probation is removed.
Students on probation are normally limited to maximum loads of 12 hours per semester, although exceptions may be made by the Dean of University College. The limitation of 12 hours also applies to students who have declared a transition semester.

**Dismissal:** Degree-bound University College students who have accumulated 12 attempted credit hours after being placed on probation (unless other standards were specified as a condition of admission or readmission) and who do not have a 2.00 grade point average for the most recent semester or Summer Session will be academically dismissed. Once degree-bound students accumulate 48 hours, they will be transferred or dismissed from University College. The grading system is explained in the Academic Information section of the Catalog.

Nondegree-bound students are subject to the same probation/dismissal standards as above with the following exception: At 48 hours, nondegree students will be asked to reaffirm their nondegree status with the Dean of University College or transfer to a degree college if eligible.

**Readmission after Academic Dismissal**

Students who have been academically dismissed may seek readmission to University College by appealing, in writing, for an exception to the regulations. University College requires petitioners to meet with an academic counselor for a personal interview and to prepare a written petition which is considered by the University College Exceptions Committee and then forwarded to the University’s Committee on Admissions and Exceptions for final action.

Because counseling and advanced planning require careful attention and much time, students must secure their recent academic records, complete their petition satisfactorily and have had their final readmissions interview at least ten days before the first day of enrollment. Interviews are not conducted during any of the scheduled registration sessions.

Cases for readmission must be developed by the students themselves. They should center their petitions around explanations for their failures and presentations of evidence for their future successes.

**University College Courses**

All the following courses are graded Credit (Cr) for satisfactory work or No Credit (NCr) for unsatisfactory work.

**Credit Courses**

100. Freshman Seminar. (1). A study of the University as a resource for personal development and the development of an individual master plan for study and self-development in the University. J 10 100 P 0 0601

100A. Adult Seminar. (1). A special class for adults who have been out of school for one year or more. Designed to help adults learn more about themselves and about The Wichita State University. Covers career information, interest testing and interpretation, educational planning and other activities. J 10 100A P 0 0601

100P. Parents’ Course. (1). A study of the issues and experiences which confront new students at The Wichita State University, how these issues may impact on parents and how parents can be constructively supportive during this major, new life experience. J 10 100P P 0 0601

102. Topics in Career Exploration. (2). A course designed to involve students in the career/life, educational planning and decision-making process based on career development theories. Various assessments and exercises are used to explore values, interests and skills as they relate to career choice. Students research occupations and gain knowledge of labor market trends. Course content assists in exploration of college major and career path choice or change. Current workplace issues are addressed. J 10 102 P 0 4999

160. Reading and Study Skills. (3). A course designed for any student who seeks to enhance his/her reading speed, reading comprehension and study skills. Topics include time management, note-taking skills and test-taking strategies which prepare students for both university course work and our fast-paced society. J 10 160 P 0 1501

**Noncredit Courses**

The following courses are not applicable to a degree in the baccalaureate colleges.

050. Personal Assessment Planning. (1 or 3). A course designed to provide specialized developmental information, using a variable format. Not an elective. May be required of students admitted or readmitted by action of the University Admissions and Exceptions Committee. J 10 050 P 0 4999

060. Basic Reading Skills. (3). For students with significant reading skill deficiencies. Students will undergo extensive diagnostic testing and appropriate individualized instruction will be provided based on results of administered tests. J 10 060 P 0 1501

090. Listening and Verbal Communication. (2). Much of the information students gain in college is through listening to lectures and discussions. This course provides training in the skills of recognizing important information and taking good notes. J 10 090 P 0 0601
The mission of the W. Frank Barton School of Business is to provide an educational environment in which students and faculty can discover, examine critically, preserve and transmit the knowledge and values essential to the improvement of the quality of life for society and for the individual. By offering these learning opportunities, the school contributes to the development of professionally competent and socially responsible men and women for careers in business, government and other organizations requiring the organizational, managerial and analytical skills necessary in today's rapidly changing environment.

This mission is influenced by the location of the school in the largest economic and cultural center in the State of Kansas. As an integral part of the state's designated urban university, the faculty of the Barton School of Business is committed to programs and activities that will help sustain the contribution that this urban center makes to the economic, professional and cultural health of the state and nation.

Within this context, the faculty of the school state the following objectives:
1. To offer programs (undergraduate, graduate and postgraduate) to develop and update professional competence in all facets of management and administration.
2. To add to the total body of knowledge concerning business and administration through fundamental and applied research and to participate actively in the search for solutions to business and community problems.
3. To serve as an information and research center for the community, state and region.
4. To foster mutually supportive relationships with the business community of the city, state and nation in order to promote understanding and cooperation in educational and professional activities.

The school is a member of the American Assembly of Collegiate Schools of Business; all its undergraduate and graduate programs are accredited by this organization.

**Degrees Offered**

**Baccalaureate**

The undergraduate curriculum of the Barton School of Business leads to the Bachelor of Business Administration (BBA). Areas of emphasis or majors are offered in several fields within the School of Accountancy and the following departments: business education; economics; finance, real estate and decision sciences; management; and marketing and small business.

Students may obtain a second bachelor's degree in the Barton School of Business if they: (1) complete a minimum of 30 hours in residence in the Barton School of Business in addition to the work required for the first bachelor's degree and (2) satisfy the school's general requirements and emphasis/major requirements in effect at the time they embark on the program leading to a second bachelor's degree.

**Associate of Science**

Two-year programs in secretarial and legal assistant training, which lead to the Associate of Science, are available. The secretarial program is offered by the Department of Business Education and the legal assistant program by the Department of Finance, Real Estate and Decision Sciences.

**Graduate**

Master's degree programs in the School lead to the Master of Business Administration (MBA), Master of Professional Accountancy (MPA), Master of Science (MS) in accounting and administration and the Master of Arts (MA) in economics.

For additional information on graduate programs, see The Wichita State University Graduate Bulletin and the Barton School of Business—Master of Professional Accountancy section of the Catalog.

**Business Teacher Education**

Students interested in preparing to teach business subjects in high school should enroll their first year in University College and then transfer into the College of Education. All Wichita State students who receive a certificate to teach must meet the requirements outlined in the College of Education section of the Catalog.

**Business Emphases in Other University Programs**

Students in Fairmount College of Liberal Arts and Sciences may major in economics. Students from all colleges may minor in accounting, business administration or economics. Students in the College of Education may major or minor in business education or economics, as well as minor in accounting. Students in all colleges other than business may pursue a minor in business administration.

A field major in international studies is offered in cooperation with Fairmount College of Liberal Arts and Sciences for students interested in specializing in a foreign area of the world or in international business, economics or affairs. The major prepares students for careers in international organizations within the U.S. government and in business firms. Additionally, a cooperative chemistry/business program is offered in the Department of Chemistry.

The Barton School of Business provides the organizational administration course work for the degree program in health care administration offered through the College of Health Professions. This program prepares students to become qualified health care administrators in one of the many types of health facilities.

The Barton School of Business cooperates with the College of Engineering in offering a graduate degree in engineering management science.

**Policies**

**Admission**

Entering Wichita State freshmen interested in business administration are first admitted to University College and must meet the general entrance requirements of the University.

Initial admission to the Barton School of Business is available to students from University College, degree-granting colleges within the University or other universities and colleges, provided the student has (1) completed 24 semester credit hours, (2) a cumulative grade point average of 2.250 and (3) completed six hours of English composition, three hours of speech and three hours of college algebra.

Advanced standing in the Barton School of Business is available to students who have: (1) completed 60 semester hours, (2) a cumulative grade point average of 2.250, (3) completed six hours of elementary accounting, six hours of introductory economics, business statistics, business calculus and a business computer programming course and (4) declared a professional major in the college. Note: For degree seeking students in the Barton School of Business, advanced standing is a pre-
The Wichita State University Schedule of Catalog is available from the business coordinator in the Cooperative Education Office.

Cooperative Education
The Barton School of Business participates in the University Cooperative Education Program. The program is designed to provide relevant paid employment experiences that integrate, complement and enhance the student's academic program. Students are placed in co-op positions in a variety of business settings, including government agencies, financial institutions, social agencies, accounting firms, entrepreneurial companies and many others. Individual academic projects are formulated in consultation with the student's faculty advisor. Co-op placements must be approved by the student's faculty sponsor. Participation in the co-op program requires enrollment in designated courses having prerequisites. More information is available from the business coordinator in the Cooperative Education Office.

Advising
The focus of advising in the Barton School of Business is to help students progress toward their educational objectives. The school's advising system offers:
1. Transcript evaluation for transfer students and continuous monitoring of degree progress for all students
2. Suggestions of specific courses to be selected in a given semester or summer session
3. Program planning designed to outline an entire course of study
4. Referral to appropriate University resources for students seeking career guidance, personal counseling or other types of assistance

Advising is designed to provide assistance where desired and appropriate. Students, especially those nearing graduation, are encouraged to make full use of the advising system.

Types of Advising Assistance Available

Transcript Evaluation. Two aspects of transcript evaluation affect students: (1) the evaluation of course work to be transferred to The Wichita State University for a degree and (2) the continuing evaluation of completion of graduation requirements.

Evaluation of transfer work is initially accomplished by the University's office of admissions. Evaluation of business and economics course work is done by the school's student records office, 106 Clinton Hall, working in conjunction with the dean's office and the various departments within the school.

The student records office also keeps a current record of each student's progress at The Wichita State University. Many students will be able to make advantage of the school's automated degree audit system. This on-line system provides students a personal copy of their academic record, including work in progress.

Schedule Building. Schedule building is the determination of specific courses a student should take in a given semester. Students should refer to The Wichita State University Schedule of Courses and Catalog in consultation with a faculty adviser or staff of the school's advising center to determine a specific course of study. Selection of specific sections and of times for courses is the student's responsibility. The tentative schedule must be approved by an adviser.

Program Planning. Students are encouraged to outline an entire plan of study early in their academic career. This program planning activity is provided by the advising center and in-

Probation and Dismissal
Students are placed on probation at the end of any semester in which they do not have a cumulative grade point average of 2.250. Probation is removed when their cumulative grade point average reaches the 2.250 level. Students remain on probation if (1) they earn a 2.000 or better grade point average in the semester during which they are on probation and (2) their cumulative grade point average does not fall below 2.000. Students on probation because of a deficient cumulative grade point average may not be academically dismissed until they accumulate 12 or more attempted hours after being placed on probation.

Students on probation are dismissed from the Barton School of Business if they fail to meet the requirements of their probationary status. When dismissed, students must apply to the Barton School of Business Exceptions Committee to be considered for readmission on a final probationary status. Application should be made in the student records office, 106 Clinton Hall.

Extension or Correspondence Work
Not more than six hours of the last 30 hours or ten of the total number of hours required for graduation may be in extension or correspondence courses. Permission of the dean must be secured before a student may take such courses. No extension or correspondence courses are allowed that (1) duplicate courses required for any degree granted by the school, (2) are required for any emphasis within the school or (3) are offered at the junior or senior level in the school.

A-Pass/Fail
The following restrictions pertaining to courses taken for A-Pass/Fail credit apply to students enrolled in the Barton School of Business:
1. No course in the Barton School of Business core may be taken on an A-Pass/Fail basis.
2. No course in the student's area of emphasis may be taken on an A-Pass/Fail basis.
3. Except for the cases given above, students enrolled in the Barton School of Business are subject to the A-Pass/Fail regulations of the University.

Limitations on Student Load
Initially admitted Barton School of Business students are limited to a maximum of 16 hours, to which may be added one hour of military studies or physical education. Students admitted to Advanced Standing in the college are limited to a maximum of 18 hours, to which may be added one hour of military studies or physical education.

All Barton School of Business students are limited to enrollment in one course during a summer session, one course in any four-week summer session and two courses in any eight-week summer session. If a student is enrolled in both an eight-week and a four-week summer session, the maximum enrollment is two courses.

Mathematics
College algebra (3 hours)
Survey of calculus (3 hours)

Communications
Composition (6 hours)
Speech (3 hours)

Computer Science
Any programming language (3-4 hours)

Social Sciences
Principles of economics (6 hours)
Psychology, sociology, anthropology, political science (6 hours)

Business
Introductory accounting (6 hours)
Business statistics (3-4 hours)

Nonbusiness electives (10 hours)

Types of Advising Assistance Available

Transcript Evaluation. Two aspects of transcript evaluation affect students: (1) the evaluation of course work to be transferred to The Wichita State University for a degree and (2) the continuing evaluation of completion of graduation requirements.

Evaluation of transfer work is initially accomplished by the University's office of admissions. Evaluation of business and economics course work is done by the school's student records office, 106 Clinton Hall, working in conjunction with the dean's office and the various departments within the school.

The student records office also keeps a current record of each student's progress at The Wichita State University. Many students will be able to take advantage of the school's automated degree audit system. This on-line system provides students a personal copy of their academic record, including work in progress.

Schedule Building. Schedule building is the determination of specific courses a student should take in a given semester. Students should refer to The Wichita State University Schedule of Courses and Catalog in consultation with a faculty adviser or staff of the school's advising center to determine a specific course of study. Selection of specific sections and of times for courses is the student's responsibility. The tentative schedule must be approved by an adviser.

Program Planning. Students are encouraged to outline an entire plan of study early in their academic career. This program planning activity is provided by the advising center and in-
includes suggested model programs for each of the major fields of study offered by the school.

Counseling. Students seeking career guidance, personal counseling or other types of assistance will be directed to the appropriate University office by the staff of the advising center.

Where To Find Advising Assistance
Office of the Dean (100 Clinton Hall). Students should come to the Office of the Dean for special advising assistance that cannot be resolved at locations described below and to file appeals and waiver requests relative to school and University regulations. The dean’s office will also refer students to the appropriate office should the student be unsure as to where to find assistance.

Undergraduate Academic Advising Center (114 Clinton Hall). The Academic Advising Center is staffed to provide assistance in understanding degree program requirements, planning an entire academic course of study, designing a course schedule for a particular semester and for providing referrals to other University offices for assistance as appropriate.

Student Records Office (106 Clinton Hall). The Student Records Office maintains a complete and up-to-date file for each student admitted to the Barton School of Business.

Legal Assistant Majors (100 Clinton Hall). All legal assistant majors are advised by the associate director of the Legal Assistant Program. Appointments should be made in the Office of the Dean.

Business Education/Secretarial Science Majors (114 Business Education Building). All business education and secretarial science majors are advised in the Department of Business Education.

Academic Honesty
The faculty of the Barton School of Business strongly endorses the statement on academic honesty appearing in the general information section of this Catalog.

Graduation Requirements
Bachelor of Business Administration
Candidates for the Bachelor of Business Administration degree must satisfy the following Barton School of Business requirements:
1. Complete at least 56 hours of course work offered outside the school (Econ. 201Q and 202Q may count as courses outside the school, but Hist. 515, 516 and 614 and Pol. Sci. 655 and 687 may not.)
2. Complete at least 50 semester hours of course work offered by the Barton School of Business.
3. Complete the set of core requirements specified for the Bachelor of Business Administration, given later in this section.
4. Complete the requirements for a major in the Barton School of Business.
5. Achieve a grade point average of 2.250 or better on (a) all college work, (b) all work taken at Wichita State, (c) all business and economics courses, (d) all business and economics courses taken at Wichita State, (e) all courses counted toward the student’s major/emphasis and (f) all courses counted toward the student’s major/emphasis taken at Wichita State.

Three levels of requirements must be completed to receive a BBA: (1) University general education and graduation requirements, listed in the Academic Information section of the Catalog, (2) general requirements in the Barton School of Business and (3) school major requirements. Students should complete the requirements in the order listed, with some overlap and duplication of courses among the three levels.

The following sequence of required courses is recommended:

**Freshman Year**
Math. 111, College Algebra
Math. 144, Business Calculus
Eng. 101-102, College English I-II
Speech 111 or 112—Basic Public Speaking or Basic Interpersonal Communication

**Sophomore Year**
Acctg. 210, Financial Accounting I
Acctg. 220, Managerial Accounting I
CS 190, Introduction to Programming for Business, or CS 200, Introduction to Programming and a programming language selected from CS 201-216
Econ. 2010-2020, Principles of Economics I-II
Econ. 231, Introductory Business Statistics

**Junior Year**
Acctg. 300, Managerial Accounting I,
Mkt. 300, Marketing
Upper-division economics course

**Senior Year**
Mgmt. 430, Business and Society
Mgmt. 681, Administrative Policy

Major courses
Students planning to enroll in upper-division business courses (courses numbered 300 to 600) must have completed 60 semester credit hours. Accreditation of the school by the American Assembly of Collegiate Schools of Business stipulates that students must be classified as juniors to enroll in upper-division courses. Exceptions are made to this requirement for any of the following:

1. Students who have close to 60 hours and have enrolled in the required lower-division (100-200 level) courses may enroll in introductory upper-division courses to complete a full schedule.

2. Students with a cumulative grade point average of 3.250 or above may have the junior standing prerequisite waived with the consent of the instructor of the course and the chairperson of the department in which the course is taken.

3. Students may petition the school’s Exceptions Committee for special permission to enroll in upper-division courses.

The suggested sequence of courses includes classes which are part of the Barton School of Business core requirements. Core courses required for the BBA are:

**I. Mathematics**
- Math. 111, College Algebra*
- Math. 144, Business Calculus*
- Math. 242Q, Introductory Analysis I, will be accepted in lieu of Math. 144 *

**II. Environment of Business**
- Mgmt. 430, Business and Society
- Econ. 2010-2020, Principles of Economics I-II and one upper-division economics course

**III. Business Functions**
- Mkt. 300, Marketing
- Fin. 340, Finance
- DS 350, Introduction to Production Management

**IV. Accounting: Quantitative Methods and Information Systems**
- Acctg. 210, Financial Accounting I*
- Acctg. 220, Managerial Accounting I*
- Econ. 231, Introductory Business Statistics*
- CS 130, Introduction to Programming for Business, or CS 200, Introduction to Programming, and a programming language selected from CS 201-216.

Note: Accounting majors should take Acctg. 300
Accounting Major

School of Accountancy

Two degree programs are offered by the School of Accountancy—the Master of Professional Accountancy and the Bachelor of Business Administration with an accounting major. In addition, a minor in accounting is available to students who are not accounting majors. For information about the Master of Professional Accountancy degree, see the Barton School of Business—Master of Professional Accountancy section of the Catalog.

Requirements for a major in accounting within the Bachelor of Business Administration degree are as follows:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acctg. 300, Accounting Systems and the Microcomputer</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 310, 410 and 510, Financial Accounting II, III and IV</td>
<td>9</td>
</tr>
<tr>
<td>Acctg. 320, Managerial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 430, Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 560, Accounting Information Systems I</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 640, Auditing I</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. elective</td>
<td></td>
</tr>
<tr>
<td>B. Law 435, Law of Commercial Transactions</td>
<td>3</td>
</tr>
<tr>
<td>B. Law 436, Law of Business Associations</td>
<td>3</td>
</tr>
<tr>
<td>† Econ. 340, Money and Banking Eng. 210, Composition: Business, Professional and Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

Accounting Minor—Undergraduate. A minor in accounting is available to any student whose major field or area of emphasis is outside of accounting. A minor consists of 15 hours: Acctg. 210 plus 12 hours of accounting course work beyond Acctg. 210.

Professional Designations. Students interested in accounting may pursue several different professional designations. The designation Certified Public Accountant (CPA) requires that the candidate pass the Uniform CPA Examination and meet the requirements of Kansas law and the regulations of the Kansas Board of Accountancy. The areas tested on the examination include auditing, business law, accounting theory and accounting practice.

The Certificate in Management Accounting (CMA) requires that the candidate pass the CMA examination and meet the requirements of the Institute of Certified Management Accountants. The areas tested include economics and business finance; organization and behavior, including ethical considerations; public reporting standards, auditing and taxes; internal reporting and analysis; and decision analysis, including modeling and information systems.

The designation Certified Internal Auditor (CIA) requires no specified course work prior to sitting for the examination. The areas tested on this examination are principles of internal auditing, internal audit techniques, principles of management and disciplines related to internal auditing.

Additional information on these professional designations may be obtained in the School of Accountancy.

Aviation Management Major

Department of Marketing and Small Business

Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Av. Mgt. 320, Introduction to Aviation</td>
<td>3</td>
</tr>
<tr>
<td>Av. Mgt. 420, General Aviation: Management and Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Av. Mgt. 421, Airport Planning and Management</td>
<td>3</td>
</tr>
<tr>
<td>Av. Mgt. 422, Airl ine and Air Travel Management</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 615, Economics of Transportation</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 616, Economics of Air Transportation</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 604, Distribution Management</td>
<td>3</td>
</tr>
<tr>
<td>Electives:</td>
<td></td>
</tr>
<tr>
<td>Av. Mgt. 222, Ground School</td>
<td>2</td>
</tr>
<tr>
<td>Av. Mgt. 223, Private Flight</td>
<td>3</td>
</tr>
</tbody>
</table>

Business Administration Major

Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A minimum of 15 hours must be selected from courses listed below and distributed over five of the seven areas</td>
<td>15</td>
</tr>
<tr>
<td>Acctg. 310, Financial Accounting II (3)</td>
<td></td>
</tr>
<tr>
<td>Acctg. 320, Managerial Accounting II (3)</td>
<td></td>
</tr>
</tbody>
</table>

Electives from upper-division business courses | 6

Note: Math. 111, College Algebra, is a prerequisite for some of the required courses; students should include Math. 111 as part of their background preparation. Students who wish to take DS 350 must have Math. 144 and Econ. 231 or the equivalent as prerequisites. Students who have not met these prerequisites as part of their major program of study may take them as part of their electives for the minor.
## Business Education Major

### Department of Business Education

Required courses for the secretarial major are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus. Ed. 133, Beginning Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 138, Advanced Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 237, Technical Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 231, Elementary shorthand</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 234, Advanced shorthand</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 240, Technical Shorthand</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 136, Records Management</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 203, Office Procedures and Organization</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 204, Office Machines</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 260, Automated Word Processing</td>
<td>3</td>
</tr>
</tbody>
</table>

### Business Education Minor

In addition to following the major in business teacher education with emphasis in secretarial science described above, students may minor in business education. Students planning to teach business education as a second subject in secondary schools are required to take 24 hours of business courses, including Acctg. 210 and 220; Econ. 2010; Bus. Ed. 138 and 237; and nine hours from business administration courses or shorthand, of which one course must be upper division.

## Economics Major

### Department of Economics

A major requires a minimum of 21 upper-division hours in economics beyond the college core. Within the 124 hours required for graduation, a maximum of 41 hours in economics are allowed, counting the courses in the college core. The following courses are required and must be included in the 124 hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ. 301, National Income Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 302, Production, Price and Distribution Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 340, Money and Banking</td>
<td>3</td>
</tr>
</tbody>
</table>

Upper-division electives in economics beyond the college core 12

### Economics Minor

A minor in economics is available to any student whose major field or area of emphasis is outside of economics. A minor consists of 15 hours of economics exclusive of Econ. 1010, 1020, 2010 and 2020 (or equivalent) must be included.

## Finance Major

### Department of Finance, Real Estate and Decision Sciences

Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin. 640, Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 641, Investments</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 643, Capital Markets and Financial Institutions</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives, from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin. 444, Contemporary Issues in Banking</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 644, Commercial Bank Management</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 645, Security Analysis and Valuation</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 646, International Finance</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 310, Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 340, Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>RE 611, Real Estate Finance</td>
<td>3</td>
</tr>
<tr>
<td>RE 618, Real Estate Investment Analysis</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives, selected with consent of major adviser 6

### Bank Management Emphasis

Finance majors wishing to emphasize bank management should include the following courses in their major:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin. 444, Contemporary Issues in Banking</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 644, Commercial Bank Management</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 340, Money and Banking</td>
<td>3</td>
</tr>
</tbody>
</table>

Additionally, students should consider the possibility of an internship in the summer between their junior and senior year or during one of their last three semesters in college.

## International Business Major

### Department of Management

Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin. 648, International Finance</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 561, Introduction to International Economics and Business</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 683, Comparative and International Management</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 601 International Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

## Management Major

### Department of Management

Seven courses selected from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mgmt. 462, Leadership and Motivation</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 464, Organizational Communication</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 665, Organizational Development</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 667, Organizational Structure and Design</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 680, Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 683, Comparative and International Management</td>
<td>3</td>
</tr>
<tr>
<td>Pers. 466, Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>Pers. 664, Labor Relations</td>
<td>3</td>
</tr>
<tr>
<td>DS 651, Design of Operations Systems</td>
<td>3</td>
</tr>
<tr>
<td>DS 652, Operations Planning Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Up to six credit hours may be substituted from upper-level courses in business administration with consent of the major adviser.

## Marketing Major

### Department of Marketing and Small Business

Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mkt. 403, Marketing Research</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 405, Consumer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 609, Marketing Programs</td>
<td>3</td>
</tr>
<tr>
<td>Electives, from the following:</td>
<td>6</td>
</tr>
<tr>
<td>Mkt. 404, Retail Management</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 601, International Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 604, Distribution Management</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 606, New Product Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 607, Promotion Management</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 608, Selling and Sales Force Management</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 690A, Marketing for Service and Nonprofit Organizations</td>
<td>3</td>
</tr>
</tbody>
</table>
Admission Requirements

During the semester in which the preprofessional curriculum will be completed, the candidate for the MPA must apply for admission to the Graduate School. No bachelor’s degree will be awarded; however, the student desiring such a degree may be granted the degree with a minimum of additional course work as specified in the Bachelor of Business Administration—Accounting Major section of the Catalog. Requirements for admission in full standing to the MPA program are as follows:

1. Completion of the 96-hour preprofessional curriculum, meeting all specified course requirements, described above
2. A grade point average not less than 3.000 on the 12 hours of accounting courses required beyond the introductory level (Acctg. 310, 320, 410 and 430).

Conditional Admission

Students who have completed 96 semester hours and lack no more than nine hours of specific preprofessional course requirements may be admitted on a conditional basis. These nine hours must be completed in the first semester following conditional admission or as soon thereafter as course scheduling permits.

Probationary Admission

Students who do not meet the minimum GMAT and/or grade point requirements may be admitted to probationary status by the director on the basis of sufficient evidence that they can satisfactorily complete the MPA program requirements and have the potential for a successful career in professional accounting.

Students From Other Educational Institutions

Students who hold a baccalaureate degree from an accredited institution may be admitted to the School of Accountancy if they meet the minimum scholastic requirements. They will be required to make up any specific preprofessional course deficiencies, as soon as course scheduling permits and to complete all School of Accountancy requirements for which they have not had an equivalency, including a minimum of 30 semester credit hours beyond the requirements for the baccalaureate degree.
Professional Program
Candidates in the professional curriculum must complete 55 credit hours in the following courses while maintaining an overall grade point average of 3.00 or better based on all courses taken while in professional status.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct. 710 and 715, Financial Accounting IV and V</td>
<td>6</td>
</tr>
<tr>
<td>Acct. 720, Managerial Accounting III</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 730, Taxation II</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 760 and 860, Accounting Information Systems I and II</td>
<td>6</td>
</tr>
<tr>
<td>Acct. 740, Auditing I</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 890, Professional Seminar</td>
<td>1</td>
</tr>
<tr>
<td>B. Law 436, Legal Research</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 830, Business and Society</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 862, Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 885, Administrative Policy (to be taken during the last semester of the program)</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 841, Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>DS 871, Multivariate Statistical Methods or Econ. 631, Intermediate Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Accounting electives (courses numbered 800 or above)</td>
<td>9</td>
</tr>
<tr>
<td>Other Barton School of Business courses, excluding accounting (courses numbered 500 or above)</td>
<td>6</td>
</tr>
</tbody>
</table>

* Must be repeated for four full semesters; one credit hour will be awarded in total.

Associate of Science in Legal Assistant
A legal assistant program is offered through the Department of Finance, Real Estate and Decision Sciences to prepare students for law-related employment in law firms, corporations and government.

The 64-hour program is geared to the role concept of the legal assistant who is not a lawyer but who is trained to handle extensive professional responsibilities under the supervision of a lawyer. Some of the tasks a graduate of the program might be expected to perform are legal research, preparing briefs, interviewing clients and witnesses, preparing corporate instruments, drafting wills and probate instruments, drafting pleadings and interrogatories, filing papers, assisting in trial preparation and numerous other matters of challenge and responsibility. The program has been granted approval by the American Bar Association.

Degree Program Admission
Students seeking admission to the Legal Assistant Program must meet the general entrance requirements of the University, the initial requirements of the Barton School of Business and the special requirements of the Legal Assistant Program.

Initial admission to the Barton School of Business requires (1) completion of 24 semester credit hours, (2) a cumulative grade point average of 2.250 and (3) completion of six hours of English composition, three hours of speech and three hours of college algebra. Students may apply for admission to the Legal Assistant Program during the semester that these three requirements will be completed.

Admission to the Legal Assistant Program involves three steps: (1) submission of a properly completed application for admission, (2) completion of a personal interview with the associate director or other program counselor and (3) acceptance by the Legal Assistant Program Admissions Committee. In making its determination, the Admission Committee considers the student's academic record, American College Test (ACT) scores, evidence of written and oral communication skills, grade performance in B. Law 130Q and Legal 230 and motivation toward a professional career as a legal assistant. Because the number of applicants exceeds the number of students who can be accommodated in the program, the admissions process is by its nature competitive. Students interested in pursuing the Legal Assistant Program are encouraged to make an early appointment with the associate director to clarify pre-professional course and admissions requirements and deadlines.

Nondegree and Single Course Admission
Students not pursuing the degree program are required to complete a special admission form. The student must identify the particular course or courses, the reason for seeking admission and the background which is the basis for request for waiver of any stated prerequisites.

Such special admissions are evaluated against the following criteria: (1) whether the purpose of the student conforms to the objectives of the program, (2) whether the student has the background necessary to handle the course and not impede the class and (3) whether there is space available.

Degree Requirements
The degree requirements for the Associate of Science in Legal Assistant are summarized as follows:

<table>
<thead>
<tr>
<th>I. General Education Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Skills (12 hours)</td>
<td></td>
</tr>
<tr>
<td>Eng. 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Math 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Division A—Humanities and Fine Arts &quot;G&quot; or &quot;Q&quot; course electives</td>
<td>3-12</td>
</tr>
<tr>
<td>Division B—Social and Behavioral Sciences &quot;G&quot; or &quot;Q&quot; course electives</td>
<td>3-12</td>
</tr>
<tr>
<td>Division C—Mathematics and Natural Sciences &quot;G&quot; or &quot;Q&quot; course electives</td>
<td>3-12</td>
</tr>
<tr>
<td>II. Professional Curriculum (34 hours)</td>
<td></td>
</tr>
<tr>
<td>A. Required Courses (16-19 hours)</td>
<td></td>
</tr>
<tr>
<td>B. Law 130Q, Introduction to Law</td>
<td>1</td>
</tr>
<tr>
<td>Legal 230, Introduction to Paralegalism</td>
<td>1</td>
</tr>
<tr>
<td>Legal 231A, Legal Research and Writing I</td>
<td>3</td>
</tr>
<tr>
<td>Legal 233, Litigation I</td>
<td>3</td>
</tr>
<tr>
<td>Legal 238, Legal Assistant Internship</td>
<td>3</td>
</tr>
<tr>
<td>Legal 240, Substantive Law</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 210, Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>B. Professional Electives (15-18 hours)</td>
<td></td>
</tr>
<tr>
<td>*Legal 232, Legal Aspects of Business Organizations</td>
<td>3</td>
</tr>
<tr>
<td>*Legal 234, Estate Administration</td>
<td>3</td>
</tr>
<tr>
<td>*Legal 235, Law Office Management and Technology</td>
<td>3</td>
</tr>
<tr>
<td>*Legal 236, Litigation II</td>
<td>3</td>
</tr>
<tr>
<td>*Legal 237, Family Law</td>
<td>3</td>
</tr>
<tr>
<td>*Legal 239, Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>*Legal 241, Legal Research and Writing II</td>
<td>3</td>
</tr>
<tr>
<td>*Legal 242, Estate Planning</td>
<td>3</td>
</tr>
<tr>
<td>B. Law 331, Legal Environment of Business</td>
<td>3</td>
</tr>
<tr>
<td>B. Law 435, Law of Commercial Transactions</td>
<td>3</td>
</tr>
<tr>
<td>B. Law 436, Law of Business Associations</td>
<td>3</td>
</tr>
<tr>
<td>RE 438, Real Estate Law</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 430, Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>*AJ 220, Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>*AJ 320, Criminal Procedure</td>
<td>3</td>
</tr>
<tr>
<td>CS 190, Introduction to Programming for Business, or CS 200, Introduction to Programming, and a programming language selected from CS 201-216</td>
<td>3-5</td>
</tr>
<tr>
<td>Mgmt. 360, Concepts of Administration</td>
<td>3</td>
</tr>
<tr>
<td>C. The 34-hour professional curriculum must include a minimum of 18 hours of legal specialty courses. Legal specialty courses are identified with an asterisk (*). Other courses may qualify as legal specialty courses.</td>
<td></td>
</tr>
</tbody>
</table>
courses for students with corporate, governmental or criminal law career objectives.

D. A student who does not have law-related work experience that satisfies the interest and purpose of a legal assistant internship must, as a graduation requirement, complete Legal 238, Legal Assistant Internship. Students who have law-related work experience may validate that experience to meet this requirement by application to the director of the program. Academic credit, however, will not be granted for validated work experience.

Associate of Science in Secretarial Training

The Associate of Science program in secretarial training provides students an opportunity to receive high-quality secretarial preparation in a college atmosphere. At the same time the program is designed with a view toward helping students attain the status of Certified Professional Secretary. The degree requirements are summarized as follows:

Course                  Hrs.
Composition and Speech   Eng. 101, College English I   3
Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication   3
Social Sciences          3
Humanities              6
Science and/or Mathematics   6
Election                7
Accounting
Acctg. 210, Financial Accounting I   3
Acctg. 220, Managerial Accounting I   3
Administration
Mgmt. 360, Concepts of Administration   3
Economics
Econ. 201Q, Principles of Economics   3
Business Education
Bus. Ed. 133, 138, 237, Typewriting   6-9
Bus. Ed. 136, Records Management   3
Bus. Ed. 203, Office Procedures and Organization   3
Bus. Ed. 204, Office Machines   3
Bus. Ed. 231, 234 and 240, Shorthand   6-9
Bus. Ed. 260, Automated Word Processing   3
Total hours               64-70

Thirty hours and 60 credit points must be earned in residence, and 12 of the last 15 hours must be taken in residence. Of the required 64 hours, not more than one-fourth of D work will count on the Associate of Science in secretarial training.

Course Descriptions

Business courses numbered 100 to 299 are designed primarily for freshmen and sophomores, but students from other classes may be admitted for lower-division credit. Graduate students may not take these courses for graduate credit.

Business courses numbered 300 to 499 are available only to juniors and seniors. Graduate students may not take these courses for graduate credit.

Business courses numbered 500 to 699 are available to juniors and seniors, but graduate students may also receive graduate credit for these courses.

Business courses numbered 700 to 799 are structured primarily for graduate students, but undergraduates, upper-division students may be admitted if they meet course prerequisites.

Courses numbered 800 to 899 are designed for graduate students only, and students may not be admitted to these courses unless they have been admitted to the Graduate School. (See the Academic Information section of the Catalog for special conditions under which seniors may be admitted to graduate courses.)

Accounting

School of Accountancy

Lower-Division Courses

210. Financial Accounting I. (3). The study of accounting as a means of communicating financial information about the activities of business enterprises. Emphasis is placed on concepts and principles underlying the measurement of income and financial position and how this information may be used to evaluate the progress of a firm. Prerequisites: sophomore standing and Math. 109 or Math. 111. B 11 201 0 0502

220. Managerial Accounting I. (3). The study of accounting in terms of management's information requirements. Emphasis is given to the use of accounting in planning and controlling a firm's activities. Prerequisites: Acctg. 210, Math 109 or 111; sophomore standing. B 11 220 0 0502

Upper-Division Courses

300. Accounting Systems and the Microcomputer. (3). An overview of accounting systems with particular emphasis on the accounting microcomputer environment. Prerequisites: declared accounting major A or School of Accountancy consent; Acctg. 220. B 11 300 0 0502


320. Managerial Accounting II. (3). The study of accounting for manufacturing operations. The processing, analysis and interpretation of cost data from manufacturing, inventory valuation and internal management use are stressed. Prerequisites: Acctg. 220 and junior standing. B 11 320 0 0502

390. Special Group Studies in Business. (1-3). Repeatable for credit with School of Accountancy consent. B 11 390 3 0502

410. Financial Accounting III. (3). A continuation of Acctg. 310. Liabilities, equity and the Statement of Changes in Financial Position are emphasized. Prerequisites: Acctg. 310, Acctg. 300 or concurrent enrollment; Math 109 or 111; junior standing. B 11 410 0 0502

430. Taxation I. (3). An examination of the federal income tax relating to individual incomes. Taxation. Prerequisites: Acctg. 310; Math 109 or 111; junior standing. B 11 430 0 0502

491. Independent Study in Accounting. (1-3). Individual study for Cr/NCr only. Prerequisites: 2.750 grade point average in accounting, junior standing, and School of Accountancy consent. B 11 491 3 0502

Courses for Graduate/Undergraduate Credit

Dual course numbers are used for courses that will be taken simultaneously by baccalaureate candidates and candidates in the School of Accountancy. Additional work will be required of the latter.

510/710. Financial Accounting IV. (3). A continuation of Acctg. 410. Includes an examination of accounting concepts and techniques related to partnerships, consolidated statements, foreign exchange and fund accounting. Prerequisites: Acctg. 410, Math 109 or 111; junior standing. Acctg. 710 requires admission to the MPA program or School of Accountancy consent. B 11 510 0 0502; B 11 710 0 0502

550/750. Accounting Information Systems I. (3). A study of the content, design and controls of accounting systems, with emphasis on the use of computers for processing financial data. Prerequisites: Acctg. 220, Math 109 or 111; CS 200 and 205 or Acctg. 300; senior standing. Acctg. 760 requires admission to the MPA program or School of Accountancy consent. B 11 550 0 0502; B 11 750 0 0502

615/715. Financial Accounting V. (3). An examination of accounting concepts and techniques related to consolidated statements subsequent to date of acquisition. A systematic treatment of the basic concepts and methodology of accounting theory. Prerequisites: Acctg. 510/710; Math 109 or 111; senior standing. Acctg. 715 requires admission to the MPA program or School of Accountancy consent. B 11 615 0 0502; B 11 715 0 0502

620/720. Managerial Accounting III. (3). An examination of the methods of cost accounting. Prerequisites: Acctg. 510/710; Math 109 or 111; senior standing. Acctg. 720 requires admission to the MPA program or School of Accountancy consent. B 11 620 0 0502; B 11 720 0 0502
Theoretical Foundations of Accounting. (3). A systematic treatment of the basic concepts and methodology of accounting theory and their application to problems of income determination and asset/liability valuation. Prerequisite: undergraduate emphasis in accounting, or admission to the MPA program or School of Accounting consent. B 11 810 9 0502

899. Thesis Research. (1-3). B 11 899 4 0502

Aviation Management
Department of Marketing and Small Business

Lower-Division Courses

190. Selected Topics. (1-3). Repeatable with departmental consent. B 17 190 0 0501

222. Ground School. (2). A preparation for the FAA private pilot written examination. The student must show evidence of successful completion of this examination before receiving credit for this course. Credit by examination or experience is available only to aviation management majors. Graded on Cr/NrC basis only. B 17 222 0 0506

223. Private Flight. (3). Includes approximately 40 hours of flight required to obtain a private pilot certificate. Credit by examination or experience is available only to aviation management majors. Graded on Cr/NrC basis only. Prerequisite: Av. Mgt. 222. B 17 223 0 0506

Upper-Division Courses

320. Introduction to Aviation. (3). A study of all of the branches of aviation: aircraft manufacturing, fixed base operations, airport management, governmental aviation, airline operations and military aviation. Covers employment opportunities in the field. Representatives from the various facets of the aviation industry and government will participate. Prerequisite: junior standing. B 17 320 0 0506


420. General Aviation: Management and Marketing. (3). An overview of general aviation and governmental aviation branches of the aviation industry, including the worldwide organization of the general aircraft industry, its marketing strategies, its social and environmental impact and the economics of corporate aircraft utilization. Prerequisites: Mkt. 300 and Mgmt. 360. B 17 420 0 0506

421. Airport Planning and Management. (3). The principles and procedures pertaining to the planning of airport facilities, plus an understanding of the techniques of airport management, including airport design, financing of construction, services provided, income rate setting, accounting procedures, personnel and public relations, marketing and maintenance. Also includes current problems in certification security, safety, land acquisition, zoning and state and federal participation in airport development. Prerequisites: DS 350, Fin. 340, Mkt. 300 and Mgmt. 380. B 17 421 0 0506

422. Airline and Air Travel Management. (3). The organizational and financial structure of airline companies, their operating policies, marketing policies, equipment selection, personnel and the evaluation of the pertinent federal and international regulations. It covers both air cargo and passenger operations. Also contains a section on the organization and operation of air travel agencies and their relations with airlines. Prerequisites: DS 350, Fin. 340, Mkt. 300 and Mgmt. 380. B 17 422 0 0506

491. Independent Study. (1-5). Offered for Cr/NrC only. Closed to graduate credit. Prerequisite: junior standing and 2.750 grade point average. 

The following abbreviations are used in the course descriptions for lecture and laboratory. For example, 2R 2L means two hours of lecture and two hours of laboratory.
Business Education

Department of Business Education

Lower-Division Courses

133. Beginning Typewriting. (3). A survey of the correct fingering and mechanical operation of a typewriter and an introduction to business forms. B 14 133 1 0514

136. Records Management. (3). A study of modern management methods and practices used in the creation, utilization, maintenance, retention, preservation and disposition of business records. B 14 136 0 0514

138. Advanced Typewriting. (3). A course stressing business, letter, and manuscript forms; tabulation; and timed production problems. Prerequisite: Bus. Ed. 133, or one year of high school typewriting or departmental consent. B 14 138 5 0514

190. Selected Topics. (1-3). Repeatable with departmental consent. B 14 190 3 0514

203. Office Procedures and Organization. (3). A study of the various secretarial procedures in a modern office. Prerequisite: sophomore standing or departmental consent. B 14 203 0 0514

204. Office Machines. (3). A course covering the operation of 10-key adding machines and electronic calculators, office duplicating machines and voice transcription, as well as the study of copying machine processes. Prerequisite: BE 133. B 14 204 5 0514

231. Elementary Shorthand. (3). A study of the theory of Gregg Series 90 Shorthand. Prerequisite: Bus. Ed. 133 or one unit of high school typewriting or departmental consent. B 14 231 5 0514

234. Advanced Shorthand. (3). A review of Gregg Series 90 Theory. Emphasis is placed on advanced dictation and machine transcription. Prerequisite: Bus. Ed. 231 with a grade of C or better or departmental consent. B 14 234 5 0514

237. Technical Typewriting. (3). A study of letter forms used in business, difficult tabulating projects, legal typewriting, medical typewriting, and advanced timed production problems. Emphasis is placed on accuracy at a high rate of speed to meet office standards. Prerequisite: Bus. Ed. 136 or two units secretarial training in high school or departmental consent. B 14 237 5 0514

240. Technical Shorthand. (3). Advanced dictation, with emphasis on technical vocabulary. Prerequisites: Bus. Ed. 234 with a grade of C or better and Bus. Ed. 237, or departmental consent. B 14 240 5 0514

Business Law

Department of Finance, Real Estate and Decision Sciences

Lower-Division Courses

130Q. Introduction to Law. (3). A basic introduction to law. Considers the nature and functions of law, the structure of the American legal system and legal processes and procedures. Also surveys the major areas of substantive law. Open to students with a general interest in law. Students interested in the Legal Assistant Program should enroll concurrently in Legal 230. B 15 130Q 0 0506

190. Selected Topics. (1-3). Repeatable with departmental consent. B 15 190 3 0506

Upper-Division Courses

331. Legal Environment of Business. (3). An introduction to the legal environment within which the business system operates. The course considers the functions of law in relation to the business system, the institutions and processes involved in the interaction between business, society and government and the major frameworks of private and public law. Emphasis is placed on the role of public law, including the ethical and social responsibility aspects of business behavior. Prerequisite: junior standing. B 15 331 0 0501


435. Law of Commercial Transactions. (3). Law of contracts, bailments, sales, commercial paper and secured transactions. This course centers on the Uniform Commercial Code. Prerequisite: junior standing. B 15 435 0 0506

455. Law of Business Associations. (3). Law of agencies, partnerships and corporations. This course considers the organizational and relational aspects of both small, closely held businesses and large corporate entities. Prerequisite: junior standing. B 15 455 0 0506

437. Regulatory Law. (3). An introduction to the realm of regulatory law and its business context. Considers the legal principles common to most regulatory agencies. Topics considered include trade regulation, occupational health and safety, product safety and environmental law. Prerequisite: junior standing. B 15 437 0 0506

492. Internship in Business Law. (1-3). Offered for Cr/NrC only. Closed to graduate credit. Prerequisite: junior standing and 2,750 grade point average in business law. B 15 492 2 0506

Courses for Graduate/Undergraduate Credit

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. B 17 690 9 0501

750. Workshop in Aviation Management. (1-4). Prerequisite: junior standing. B 17 750 9 0501

Courses for Graduate Students Only

831. Legal Environment of Business. (3). An introduction to the legal environment within which the business system operates. The course considers the functions of law in relation to the business system, the institutions and processes involved in the interaction between business, society and government and the major frameworks of private and public law. Emphasis is placed on the role of public law, including the ethical and social responsibility aspects of business behavior. B 15 831 0 0501

890. Seminar in Special Topics. (1-5). Repeatable with departmental consent. B 15 890 9 0501

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 15 891 3 0501

Decision Sciences

Department of Finance, Real Estate and Decision Sciences

Lower-Division Course

190. Selected Topics. (1-3). Repeatable with departmental consent. B 15 190 0 0501
Upper-Division Courses

350. Introduction to Production and Operations Management. (3). An overview of the concepts, tools, and techniques used in making managerial decisions related to the production or operations function of an organization. Topics include facility location and layout, forecasting, operations scheduling, quality control, inventory planning and control, work design and measurement. Prerequisites: Econ. 231 and Math. 144, or equivalent, and junior standing. B 15 350 0 0506


491. Independent Study. (1-5). Offered Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and a 2.750 grade point average in decision sciences. B 15 491 3 0506

492. Internship in Decision Sciences. (1-3). Offered Cr/NCr only. Prerequisites: junior standing, 2.750 grade point average in decision sciences and departmental consent. B 15 492 3 0506

495. Management Information Systems for Business. (3). A study of business information systems for management decision making and control. Includes coverage of system components, controls and application. Prerequisite: one course in programming from CS 201-216 or equivalent, or CS 190 and junior standing. B 15 495 0 0701

Courses for Graduate/Undergraduate Credit

575. Decision Making Techniques. (3). An introduction to the quantitative techniques commonly used for managerial decision making and their application to problems in such areas as production, distribution and finance. Topics include linear, integer, goal and dynamic programming, transportation models, network models, queuing theory, and simulation. Prerequisite: DS 350. B 15 575 0 0507

651. Design of Operations Systems. (3). A course structured to give an in-depth view of the long-term design aspects of operations systems. Topics include process analysis and design, production control, information systems, facilities planning, materials handling system, job design, personnel planning and scheduling and current issues. Prerequisite: DS 350. B 15 651 0 0906

652. Operations Planning Systems. (3). A course structured to give an in-depth analysis of the short-term or operational aspects of goods- or service-producing systems. Topics include forecasting methods, inventory control, operations planning, aggregate planning, and scheduling and current issues. Prerequisite: DS 350. B 15 652 0 0506

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: junior standing. B 15 690 0 0501

750. Workshop in Decision Sciences. (1-4). Prerequisite: junior standing. B 15 750 2 0507

Courses for Graduate Students Only

850. Production and Operations Management. (3). Concepts for planning and controlling the production of either goods or services. Topics include: linear programming, scheduling, quality control, inventory models and waiting-line models. Not open to students with credit in DS 350. Prerequisites: calculus and statistics. B 15 850 0 0506

851. Intermediate Production Management. (3). A study of the short-term or operational aspects of production and operations systems. Application of forecasting methods and some operations research models to real-world productive systems. Prerequisite: DS 350 or B 15 851 0 0506

871. Multivariate Statistical Methods. (3). A study of selected multivariate statistical methods used in support of modern decision making. Topics include multiple hypothesis testing, multiple regression, correlation, analysis of variance and covariance and discriminant analysis. Prerequisite: Econ. 870 or Econ. 231. B 15 871 0 0503

872. Advanced Statistical Analysis. (3). Topics such as sample design, chi square, variance analysis and correlation and regression analysis are examined from conceptual and decision-making points of view. Prerequisite: DS 871. B 15 872 0 0503

874. Management Information Systems for Business. (3). A study of business information systems for management decision making and control. Includes coverage of system components, controls and application. Prerequisite: an introduction to a programming language. B 15 874 0 0705

875. Management Science. (3). A course providing quantitative bases from which the student may develop analytical abilities for use as a decision maker. Areas of study include mathematical programming, game theory, forecasting, queuing theory and simulation. Prerequisite: calculus. B 15 875 0 0507

876. Advanced Management Science. (3). An in-depth examination of selected management science models. To be included are advanced inventory and quality control topics, goal programming and other current decision-making techniques. Prerequisite: DS 875 or departmental consent. B 15 876 0 0507

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 15 890 0 0506

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 15 891 3 0506

893. Special Project in Decision Sciences. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee, Open only to MS in administration candidates. B 15 893 3 0506

895-896. Thesis. (2-2). B 15 895 4 0501; B 15 896 4 0501

Economics

Department of Economics

The requirements for an emphasis in economics for a Bachelor of Business Administration are listed under the Bachelor of Business Administration information at the beginning of this section.

Students who plan to continue their study of economics in a PhD program should see an advisor in the Department of Economics and, in most cases, include additional mathematics courses.

Courses in the economics department are offered in the following subject areas. Since course descriptions are listed in numerical sequence, the following summary is presented to assist in locating courses by subject area.

General studies—Econ. 101G


Industrial organization and regulated industries—Econ. 614, 615, 616, 617, 618

History and comparative systems—Econ. 622, 627

Statistics and econometrics—Econ. 231, 602, 631, 831, 836

Monetary theory—money and banking—Econ. 340, 640, 840

Public Finance—Econ. 653, 655, 853

Labor, manpower and health economics—Econ. 803, 660, 661, 662, 663, 665, 861

Economic growth and development; international economics—Econ. 671, 672, 674, 870

Urban, environmental and regional economics—Econ. 687, 688, 885

Directed study; thesis—Econ. 491, 692, 750, 891, 892, 895, 896.

Lower-Division Courses

101G. The American Economy. (3). An examination of the basic economic forces that affect the American economy today, the historical evolution of these forces and public policy issues resulting from these forces. Not open to upper-division students in the Barton School of Business. Not a substitute for Econ. 201G and/or Econ. 202G. B 13 101G 0 2204

102Q. Consumer Economics. (3). An examination of the consumer's role in the economy. The study of market organization and its impact on consumers, a discussion of information sources for consumers and an analysis of the programs for consumer protection are included. Not open to upper-division students in the Barton School of Business. B 13 102G 0 2204

201Q. Principles of Economics I. (3). (Macroeconomics) An introduction to determinants of national income, employment and economic growth. B 13 201Q 0 2204

202Q. Principles of Economics II. (3). (Microeconomics) An introduction to price and distribution analysis. Market structure and performance, contemporary issues and public policy issues are introduced. Prerequisite: Econ. 201Q. B 13 202Q 0 2204

203H. Honors Principles of Economics. (4). A general survey of economic method, character and scope and basic microeconomic and macroeconomic principles with applications aimed at helping the student develop an analytic framework for interpreting economic events, trends, institutions and...
Upper-Division Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>301</td>
<td>Intermediate Macroeconomics</td>
<td>3.00</td>
</tr>
<tr>
<td>302</td>
<td>Intermediate Microeconomics</td>
<td>3.00</td>
</tr>
<tr>
<td>303</td>
<td>Economic Problems of the Aged</td>
<td>3.00</td>
</tr>
<tr>
<td>304</td>
<td>Managerial Economics</td>
<td>3.00</td>
</tr>
<tr>
<td>340</td>
<td>Money and Banking</td>
<td>3.00</td>
</tr>
<tr>
<td>491</td>
<td>Directed Study</td>
<td>1-3.00</td>
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Courses for Graduate/Undergraduate Credit

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<th>Credits</th>
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<tbody>
<tr>
<td>602</td>
<td>Mathematical Methods in Economics</td>
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</tr>
<tr>
<td>614</td>
<td>Industrial Organization</td>
<td>3.00</td>
</tr>
<tr>
<td>616</td>
<td>Economics of Regulation</td>
<td>3.00</td>
</tr>
<tr>
<td>617</td>
<td>Economics of Transportation</td>
<td>3.00</td>
</tr>
<tr>
<td>618</td>
<td>Economics of Air Transportation</td>
<td>3.00</td>
</tr>
<tr>
<td>619</td>
<td>Economics of Transportation</td>
<td>3.00</td>
</tr>
<tr>
<td>620</td>
<td>Economics of Air Transportation</td>
<td>3.00</td>
</tr>
<tr>
<td>621</td>
<td>Comparative Economic Systems</td>
<td>3.00</td>
</tr>
<tr>
<td>622</td>
<td>Economic History of the United States</td>
<td>3.00</td>
</tr>
<tr>
<td>623</td>
<td>Intermediate Business Statistics</td>
<td>3.00</td>
</tr>
<tr>
<td>640</td>
<td>Monetary Problems and Policy</td>
<td>3.00</td>
</tr>
<tr>
<td>653</td>
<td>Public Finance</td>
<td>3.00</td>
</tr>
</tbody>
</table>
48

680. Economics of Energy and Natural Resources. (3). A study of the business and economic aspects of energy and natural resources problems. Includes energy demand and supply, the price of energy, energy industry characteristics and government regulations, conservation, environmental problems, and public policies. Statistical data are extensively used to evaluate the past and present energy and natural resources situations and the trends for the future. Simple economic concepts and theories are employed to interpret the facts and to assess the impact of various policies on the use of energy and natural resources. Prerequisite: Econ. 2020 or instructor's consent. B 13 860 0 2204

687. Introduction to Urban Affairs. (3). Cross-listed as Pol. Sci. 687 and Sociol. 687. An introduction to the study of the metropolis as a social, political and economic system. Prerequisites: Econ. 2020, a course in sociological or political science, and junior standing, or instructor's consent. B 13 687 0 2214

688. Urban Economics. (3). A survey of the economic structure and problems of urban areas on both the microeconomic and macroeconomic levels. Incorporation of the application of regional economic analysis in the study of urban areas as economic regions is stressed. Prerequisites: Econ. 2010 and 2020, or Econ. 800, and junior standing. B 13 688 0 2214

692. Group Studies in Economics. (1-3). Repeatable for credit with departmental consent. Prerequisite: junior standing. B 13 692 8 2204

750. Workshop in Economics. (1-4). Prerequisite: junior standing. B 13 750 2 2204

760. Local Government Finance. (3). Cross-listed as Pol. Sci. 760. An analysis of state and local government expenditure and revenue systems, with an introduction to state and local financial administration. Prerequisites: Econ. 2020 and a course in statistics or instructor's consent. B 13 760 0 2214

Courses for Graduate Students Only

800. Analysis of Economic Theory. (3). An intensive analysis of micro- and macroeconomic principles. Not for graduate credit in the MA program in economics. Prerequisite: departmental consent. B 13 800 0 2204

801. Macroeconomic Analysis. (3). An intensive analysis of contemporary literature and problems of national income analysis. Prerequisites: Econ. 301 and one course in calculus. B 13 801 0 2204

802. Microeconomic Analysis. (3). An intensive analysis of contemporary literature and problems in the areas of production, pricing and distribution. Prerequisites: Econ. 302 or Econ. 800 and one course in calculus. B 13 802 0 2204

803. Analysis of Business Conditions. (3). A study of economic forecasting and its relationship to macroeconomic analysis. Not for graduate credit in the MA program in economics. Prerequisites: Econ. 800 or equivalent and one semester of introductory statistics. B 13 803 0 2204

804. Managerial Economics. (3). A survey of theoretical and analytical tools of economics that are useful in decision making by managers. Not for graduate credit in the MA program in economics. Prerequisites: Econ. 2020 or 800 and one course in calculus. B 13 804 0 0517


830. Statistical Methods for Business. (3). An examination of statistical concepts and methods applicable to business decision making. Included are probability theory, point and interval estimation, hypothesis testing, regression analysis, analysis of variance and selected nonparametric techniques. Not open to students with credit in Econ. 230 or equivalent. Not for graduate credit in the MA program in economics. Prerequisite: calculus. B 13 830 0 0503

831. Introduction to Econometrics. (3). Analysis of time series, multiple regression, multiple and partial correlation, analysis of variance and introduction to econometric techniques. Prerequisites: Econ. 831 and one course in calculus. B 13 831 9 0503

836. Methodology of Economics. (3). A study of what constitutes the basis of knowledge in economics. The manner in which the principles of abstract reasoning, deduction and induction can be applied to produce knowledge in economics is explored. Prerequisites: Econ. 302 and 631. B 13 836 9 2204

840. Seminar in Monetary Theory. (3). An examination of neoclassical and contemporary monetary theories. An analysis and evaluation of current monetary policies are included. Repeatable for credit with departmental consent. Prerequisites: Econ. 2020 and 340. B 13 840 9 0504

853. Seminar in Public Finance. (3). An analysis of theoretical and applied aspects of public finance in the American and foreign economies. Some of current and permanent importance are explored. Repeatable for credit with departmental consent. Prerequisite: Econ. 653. B 13 853 9 2204

861. Seminar in Contemporary Labor Issues. (3). An intensive analysis of contemporary labor problems in the field of labor. The specific nature of the problems is determined by the interest of those enrolled in the course. Repeatable for credit with departmental consent. Prerequisite: Econ. 860. B 13 861 9 0516

870. Seminar in International Trade and Finance. (3). Cross-listed as Fin. 820. A seminar in theoretical concepts and contemporary selected issues of international economics and finance. Selected issues include such as foreign exchange markets, the Eurodollar market, Arab oil dollars in the international monetary system, foreign direct investment, and policies in determining the changes in balance of payments for various countries. Prerequisites: Econ. 674, Fin. 648 or instructor's consent. B 13 870 9 0513

885. Seminar in Environmental Quality Control. (3). Examination of actual problems, projects and/or current approaches to environmental quality control. A critical look at current happenings and trends is taken. Prerequisite: instructor's consent. B 13 885 9 2204

891. Directed Study. (1-3). Individual study of various aspects and problems of economics. Repeatable for credit with departmental consent. Prerequisites: graduate standing and departmental consent. B 13 891 3 2204

892. Group Studies in Economics. (1-3). Repeatable for credit. Prerequisite: departmental consent. B 13 892 9 2204


896. Thesis. (1-2). B 13 896 9 2204

Finance

Department of Finance, Real Estate and Decision Sciences

Lower-Division Courses

140Q. Personal Finance. (3). Management of the cash flows experienced by individuals and families. Analysis of alternative strategies to meet individual financial goals through various investment alternatives and emphasis given to risks and returns. The student is exposed to a set of tools that can be applied in personal financial management to provide a flexible and relevant framework for future decision making. B 15 140Q 0 0504

150. Selected Topics. (1-3). Repeatable with departmental consent. B 15 190 3 0504

Upper-Division Courses

340. Finance. (3). A study of corporate organization, types of securities and obtaining short- and long-term capital. Financial planning and control, forecasting and budgeting are included. Prerequisites: Acctg. 210 and 220 and junior standing. B 15 340 0 0504

348. Introduction to Insurance. (3). A basic study of both property/casualty and life/health insurance. Analysis of risk and the ways to treat both personal and business loss exposures. Study of the contracts, rate making and services of insurance business, as well as the marketing and regulation of both private and governmental insurance. Prerequisite: junior standing. B 15 348 0 0504


444. Contempory Issues in Banking. (3). A survey of contemporary issues facing the U.S. commercial banking system. Course content varies according to the timeliness of various issues. The course is not only for those planning a career in banking but for anyone interested in current trends and issues in banking. Prerequisite: Fin. 340. B 15 444 0 0504

491. Independent Study. (1-5). Offered Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 grade point average in finance. B 12 491 3 0504

492. Internship in Finance. (1-3). Offered Cr/NCr only. Prerequisites: junior standing; 2.750 grade point average in finance and departmental consent. B 15 492 2 0504

Courses for Graduate/Undergraduate Credit

640. Financial Management. (3). An exploration of the problems and operations for which the financial officer is responsible, emphasizing controversial aspects of financial
The law of evidence and appeals. Prerequisite: B 15 840 or equivalent. B 15 842 0 0504


845. Security Analysis. (3). Analysis and valuation of investment securities issued by corporations and governmental agencies. Prerequisite: B 15 643 0 0504

846. Capital Budgeting. (3). A study of the organization and operation of the capital budgeting system. Problems in partial decentralization and in comparability of estimates of financial institutions are studied. Each of the apparatus and procedures of financial institutions is viewed from the management viewpoint, including the theory of programing techniques are included. The determination of appropriate discount rates is also explained. Prerequisite: Fin. 840 or equivalent. B 15 846 0 0504

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 15 890 9 0504

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 15 891 3 0504

893. Special Project in Finance. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 15 893 2 0504

895-896. Thesis. (2-2). B 15 895 4 0504; B 15 896 4 0504

Legal Assistant

Department of Finance, Real Estate and Decision Sciences

Lower-Division Courses

230. Introduction to Paralegalism. (1). The new role concept of the legal assistant in the practice of law. An inquiry into what paralegals do, types of paralegal employment, training and licensure, professional ethics, authorized and unauthorized practice of law and an introduction to paralegal skills. Prerequisite: B. Law 130U, concurrent enrollment or departmental consent. B 15 230 0 5096

231A. Legal Research and Writing I. (3). An introduction to the tools and techniques of legal research, with emphasis on the basic analytical skills. The course introduces the student to the components of a law library through a variety of assigned problems, some of which culminate in the writing of a research memorandum or brief. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 231 0 5096

232. Legal Aspects of Business Organizations. (3). The law of business organizations with emphasis on the practice areas related to formation of proprietorships, partnerships and corporations. Includes drafting aspects related to employment agreements, partnership agreements and corporate documents. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 232 0 5096

233. Litigation I. (3). An introduction to the civil litigation process with emphasis on the practice aspects associated with a civil action. Topics covered include civil procedure, preparation and use of discovery, law of evidence and appeals. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 233 0 5096

234. Estate Administration. (3). The law of intestate succession, wills and trusts, with emphasis on the administration of an estate under Kansas law. Includes the preparation of wills, trust instruments and documents related to the probate process. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 234 0 5096

235. Law Office Management and Technology. (3). The application of modern concepts of organization, management and systems technology to the law office. Emphasis is placed on the use of systems approaches and the proper use of nonlawyers in the handling of all administrative functions and routine legal matters. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 235 0 5096

236. Litigation II. (3). A continuation of Litigation I with emphasis on the functions of a legal assistant in trial preparation and execution including: gathering and organization of materials, investigating, interviewing, drafting of pleadings and interrogatories, preparing a trial notebook, assisting during trial, etc. Prerequisite: admission to the Legal Assistant Program or departmental consent and Legal 233. B 15 236 0 5096

237. Family Law. (3). An introduction to family law, including: the law governing marriage and divorce. Emphasis is placed on the practice aspects related to divorce, separation, custody, support, adoption and guardianship matters. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 237 0 5096

238. Legal Assistant Internship. (3). Internship training in a law office, corporate law department or government agency. Offered Cr/Cr only. Prerequisite: 12 hours of legal studies and permission of the internship committee approval. B 15 238 0 5096

239. Special Topics. (1-3). Repeatable with departmental consent. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 239 0 5096
240. Substantive Law. (3). An introduction to substantive law for the paralegal with emphasis on the law of contracts, torts and property. Special emphasis is placed on development of skill in recognizing substantive law issues. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 240 0 5096

241. Legal Research and Writing II. (3). A continuation of Legal 231A. Covers research in specialized legal materials and writing of trial and appellate briefs. Prerequisite: admission to the Legal Assistant Program or departmental consent and Legal 231A. B 15 241 0 5096

242. Estate Planning. (3). A study of the federal estate and gift tax structure and the planning techniques which are utilized to minimize the impact of taxation on the transmission of property from one generation to another. Includes a study of wills and trusts as estate planning tools. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 242 0 5096

Management

Department of Management

Lower-Division Courses

100. Introduction to Business. (3). Introduction to the current issues, concepts and functions of business and its environment. Not open to upper-division students in the Barton School of Business. Students may not receive credit in both Mgmt. 101G and Mgmt. 100. B 16 100 0 0501

101G. Introduction to Business. (3). Everyone spends a lifetime dealing with and being influenced by business firms. The main goal of this course is to introduce students to current issues, concepts and functions of business and its environment. Students may not receive credit in both Mgmt. 101G and Mgmt. 100. B 16 101G 0 0501

190. Selected Topics. (1-3). Repeatable with departmental consent. B 16 190 3 0501

Upper-Division Courses

360. Concepts of Administration. (3). A study of behavioral and traditional concepts that apply to the management of organizations. An analysis of administrators and the environment in which they operate is included. Prerequisite: junior standing. B 16 360 0 0506


430. Business and Society. (3). An examination of the economic, political, social and legal environment in which business operates. Consideration is given to the philosophical foundation of capitalism and how business has interacted with government, consumption and the labor market. Emphasis is placed on the role of business in dealing with various societal problems. Current issues, such as the social responsibility of business, environmental protection and the challenge to the legitimacy of the firm, are dealt with from the perspective of the decision-making manager. Prerequisite: junior standing. Completion of Mkt. 300, Fin. 340, DS 350 and Mgmt. 360 is strongly recommended. B 16 430 0 0501

462. Leadership and Motivation. (3). A study of theories of human motivation and utilization of these theories to programs in organizations. Concepts of authority and delegation are probed and leadership styles are analyzed. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 462 0 0506

464. Organizational Communication. (3). An examination of the design of organizational communication systems. An introduction to communication models and the analysis of the process of interpersonal communication processes are included. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 464 0 0506

491. Independent Study. (1-5). Offered for Cr/Ncr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 grade point average in management. B 16 491 3 0501

492. Internship in Management. (1-3). Offered for Cr/Ncr only. Prerequisites: junior standing. 2.750 grade point average in management and departmental consent. B 16 492 3 0501

Courses for Graduate/Undergraduate Credit

561. Introduction to International Economics and Business. (3). Cross-listed as Econ. 672. A survey of the economic foundations of international trade and investment. After a study of international trade and policy (the international economy), it explores the operations of the multinational firm within that environment. Prerequisites: Econ. 200Q and junior standing. B 16 561 0 0513

663. Organizational Interactions. (3). A study of interpersonal intraorganizational and interorganizational interactions. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 663 0 0506

665. Organizational Development. (3). Planned organizational change. Emphasis is given to various organizational issues. Current, group and structural development are included. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 665 0 0506

667. Organizational Structure and Design. (3). An introduction and exploration of the theories pertinent to the study of organizational subsystem structure and design. The interrelationships of organizational goals, decision making, environment, technology, climate, innovation and organizational structure and design are analyzed utilizing a systems approach. Additional topics include formal versus informal structures, differentiation, integration, and matrix organization. Prerequisites: junior standing and Mgmt. 360. B 16 667 0 0506

680. Decision Making. (3). Cross-listed as UA 730. A study of the theories of decision making with attention directed to the factors of decision making, heuristics, rationality, cognitive inhibitors, problem identification, evaluation of alternatives, application of quantitative methods to decision problems and the computer. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 680 0 0506

681. Administrative Policy. (3). An integration of all aspects of business administration in the analysis of and making decisions for policy development. Prerequisites: DS 350, Mkt. 300, Fin. 340, or departmental consent and senior standing. B 16 681 0 0506

683. Comparative and International Management. (3). The study of international management concepts and practices applicable to private and public sector organizations in an international setting and their impact on operational and management functions of multinational corporations. The student is introduced to the dynamics of business and government interaction on a global basis. The course includes an examination of nationalism and industrial development versus informal structure, differentiation, international and host country activities to promote or restrict international business; development of technological and managerial skills and marketing expertise. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 683 0 0506

684. Health Administration Policy. (3). Cross-listed as HAE 684. An integration of all aspects of health administration in the analysis of and making decisions for policy development. Prerequisites: a basic course in economics, accounting, finance and management or administration and junior standing. B 16 684 0 0506

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisites: junior standing. B 16 690 0 0506

750. Workshop in Management. (1-4). Prerequisites: junior standing. B 16 750 2 0506

Courses for Graduate Students Only

830. Socio-Legal Environment of Business. (3). An examination of the economic, political, social and legal environment in which business operates. Consideration is given to the philosophies of capitalism and how business has interacted with government, consumers and labor over time. Emphasis is placed on the role of business in dealing with various societal problems. Current issues, such as the social responsibility of business, affirmative action, occupational safety and health, environmental protection and the challenge to the legitimacy of the firm, are dealt with from the perspective of the decision-making manager. B 16 830 0 0506

836. International Business Administration. (3). An introduction to international business administration with particular attention given to the development of multinational business strategy. Consideration is given to the diverse economic, political, social and cultural dimensions of the environments that exist in both developed and developing areas of the world. B 16 836 0 0513

860. Management of Organizations. (3). An introduction to management and organizational theory. Includes such topics as classical and contemporary management theory, human relations, group dynamics, motivation, communication, organizational structure and design and behavioral control. B 16 860 0 0506

862. Organizational Behavior. (3). A study in individual behavior in an organizational setting. Human variables in business are analyzed from the standpoint of job placement, performance and individual development. Topics covered include behavioral develop-
865. Communication. (3). Cross-listed as Spch. 865. An analysis of communication models with emphasis on their applications to communication problems in organizations. Social and psychological processes underlying persuasion in interpersonal relations and through the mass media are explored. Communication systems and techniques within formal organizations are analyzed critically. Prerequisite: Mgmt. 860 or departmental consent. B 16 865 0 0506

866. Organizational Conflict and Stress. (3). Studies in flexibility and rigidity. A review is made of research and thinking in the areas of innovation, conflict, resolution, stress and anxiety as relevant to organizational structures and behaviors. Prerequisite: Mgmt. 860 or departmental consent. B 16 866 0 0506

869. Research in Behavioral Science. (3). An analysis of some of the concepts and tools in behavioral science that are relevant to research in marketing. The areas of two areas such as motivation, cognitive processes, attitudes and values, etc., may be analyzed in depth. Prerequisite: Mgmt. 862 or departmental consent. B 16 869 0 0506

881. Analysis of Behavioral Systems. (3). Concentrated readings and research to define the relationship of management leadership in our society. Prerequisite: departmental consent. B 16 881 0 0506

885. Business Policies. (3). An analysis of business problems from the perspective of top management. Prerequisite: departmental consent. B 16 885 0 0506

886. Seminar in Research Methodology. (3). A study of concepts and procedures in the design and performance of research. B 16 898 0 0501

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 16 890 0 0500

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 16 891 0 0506

893. Special Project in Management. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 16 893 0 0506

895-896. Thesis. (2-2). B 16 895 0 0501; B 16 896 0 0502

Courses for Graduate Students Only

900. Marketing Systems. (3). An intensive analytical introduction to the combination of institutions that comprise the overall marketing system. The marketing function as a major subsystem within the individual business firm is also presented. B 17 800 0 0509

901. Contemporary Issues in Marketing Management. (3). A broadening of the concept of marketing by examining the impact of contemporary macroenvironmental conditions upon microenvironmental analysis. Analysis includes identification and study of environmental issues, issue participants, new managerial decisions required and limitations of marketing decision making. Prerequisite: Mkt. 800 or equivalent. B 17 801 0 0509

902. Marketing Strategy. (3). Integration of long-range marketing and corporate policies. Budgetary control and the evaluation of the effectiveness of marketing systems are included. The organization of the marketing department and its relation to the total organization are also probed. Prerequisite: Mkt. 800 or departmental consent. B 17 802 0 0509

903. Marketing Analysis. (3). The application of scientific method to the solution of marketing problems. Prerequisite: Mkt. 800 or equivalent. B 17 803 0 0509

905. Consumer Decision Processes. (3). An examination of different aspects of the behavior of consumers and the factors that help explain their behavior. An analysis of current concepts and models is included. Prerequisite: Mkt. 800 or departmental consent. B 17 805 0 0509

906. Marketing Theory. (3). A utilization of marketing research findings to analyze current marketing theory. Conceptual and theoretical frameworks for marketing analysis are developed. Prerequisite: six hours of marketing, including Mkt. 801. B 17 809 0 0509

990. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 16 890 0 0509

991. Directed Studies. (1-5). Prerequisite: departmental consent. B 16 891 0 0509

993. Special Project in Marketing. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 16 893 0 0506

Marketing

Department of Marketing and Small Business

Lower-Division Course

190. Selected Topics. (1-3). Repeatable with departmental consent. B 17 190 0 0509

Upper-Division Courses

300. Marketing. (3). A description and analysis of the U.S. marketing system and an investigation of the factors affecting management of the major policy areas of marketing in the firm. Prerequisite: junior standing. B 17 300 0 0509

390. Special Group Studies in Marketing. (1-3). Repeatable with departmental consent. B 17 390 0 0509

403. Marketing Research. (3). A study of the design of marketing information systems and marketing research procedures. Prerequisites: Mkt. 300, Econ. 231 and junior standing. B 17 403 0 0509

404. Retail Management. (3). An examination of the essential principles and practices of retail business management, including site selection, store design in marketplace layout, merchandise management, sales promotion and customer services. In addition, the course considers the broad issues of managerial and financial strategies as they affect retail distribution and clarifies new influences at work in the retailing environment. Prerequisite: Mkt. 300 or departmental consent. B 17 404 0 0509

405. Consumer Behavior. (3). A study of a variety of concepts in the behavioral sciences related to specific consumer behavior. Prerequisites: Mkt. 300, Mgmt. 300, three additional hours of marketing and departmental consent. B 16 869 0 0506

491. Independent Study. (1-5). Offered for Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2750 grade point average in marketing. B 17 491 0 0509

492. Internship in Marketing. (1-3). Offered for Cr/NCr only. Prerequisites: junior standing, 2750 grade point average in marketing and departmental consent. B 17 492 0 0509

Courses for Graduate/Undergraduate Credit

601. International Marketing. (3). Problems and procedures of marketing in foreign countries. The effects of foreign cultures and marketing systems on the design of marketing programs are included. Prerequisites: Mkt. 300 and junior standing. B 17 601 0 0509

604. Distribution Management. (3). A study of all areas involved with the distribution of a firm's products or services. These areas focus on such issues as the development of a firm's marketing channels and its relationships with wholesalers and retailers, as well as the management of the firm's storage facilities, inventory control, procedures and shipping facilities. Prerequisites: Mkt. 300 and junior standing. B 17 604 0 0509

605. New Product Marketing. (3). This course addresses the issues of identifying, evaluating, developing and commercializing new products within both smaller and larger firms. It explores the role of the product/brand manager, a person who often acts as an internal entrepreneur. Prerequisites: Mkt. 300, 403 and 405. B 17 606 0 0509

607. Promotion Management. (3). An analysis of all issues involved with the promotion of an organization and its products or services. These promotion issues address the development of advertising campaigns, management of the personal sales force, development of special promotional activities and management of public relations. Prerequisites: Mkt. 300 and junior standing. B 17 607 0 0509

608. Selling and Sales Force Management. (3). An analysis of current behavioral concepts of personal selling and the problems and policies involved in managing a sales force. Prerequisites: Mkt. 300 and junior standing. B 17 608 0 0509

609. Marketing Programs. (3). A study of all the aspects of the marketing mix that are integrated to make an effective and coordinated marketing program. Prerequisites: Mkt. 300, three additional hours of marketing and junior standing. B 17 609 0 0509

790. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: junior standing. B 17 690 0 0509

790. Workshop in Marketing. (1-4). Prerequisite: junior standing. B 17 790 0 0509

Courses for Graduate Students Only

800. Marketing Systems. (3). An intensive analytical introduction to the combination of institutions that comprise the overall marketing system. The marketing function as a major subsystem within the individual business firm is also presented. B 17 800 0 0509

801. Contemporary Issues in Marketing Management. (3). A broadening of the concept of marketing by examining the impact of contemporary macroenvironmental conditions upon microenvironmental analysis. Analysis includes identification and study of environmental issues, issue participants, new managerial decisions required and limitations to marketing decision making. Prerequisite: Mkt. 800 or equivalent. B 17 801 0 0509

802. Marketing Strategy. (3). Integration of long-range marketing and corporate policies. Budgetary control and the evaluation of the effectiveness of marketing systems are included. The organization of the marketing department and its relation to the total organization are also probed. Prerequisite: Mkt. 800 or departmental consent. B 17 802 0 0509

803. Marketing Analysis. (3). The application of scientific method to the solution of marketing problems. Prerequisite: Mkt. 800 or equivalent. B 17 803 0 0509

805. Consumer Decision Processes. (3). An examination of different aspects of the behavior of consumers and of the factors that help explain their behavior. An analysis of current concepts and models is included. Prerequisite: Mkt. 800 or departmental consent. B 17 805 0 0509

806. Marketing Theory. (3). A utilization of marketing research findings to analyze current marketing theory. Conceptual and theoretical frameworks for marketing analysis are developed. Prerequisite: six hours of marketing, including Mkt. 801. B 17 809 0 0509

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 16 890 0 0509

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 16 891 0 0509

893. Special Project in Marketing. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 16 893 0 0506

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search, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 17 893 3 0509

895-896. Thesis. (2-2). B 17 895 4 0501; B 17 896 4 0509

Personnel

Department of Management

Lower-Division Course

190. Selected Topics. (1-3), Repeatable with departmental consent. B 16 190 3 0511

Upper-Division Courses


466. Personnel Management. (3). An analysis of the functions of personnel management, including selection procedures, evaluation of personnel, training, motivation, job evaluation, discipline and personnel research. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 466 0 0515

468. Compensation Administration. (3). Approaches to compensation processes in organizations. Discussion of job evaluation techniques, wage level and wage structure determination, individual performance analysis, individual wage rate decisions, incentive plans and benefits. Consideration of the legal constraints on compensation practices. Prerequisite: Pers. 466 or consent of instructor. B 16 468 0 0515

491. Independent Study. (1-5). Offered for Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 grade point average in personnel courses. B 16 491 3 0515

492. Internship in Personnel. (1-3). Offered for Cr/NCr only. Prerequisites: junior standing, 2.750 grade point average in personnel courses and departmental consent. B 16 492 2 0511

Courses for Graduate Students Only

867. Seminar in Personnel Administration. (3). An in-depth study and analysis of several critical and/or major current problems in personnel management. The direction of the course could be determined by the interests of the class. Prerequisite: Pers. 466. B 16 867 9 0515

868. Wage and Salary Administration. (3). A study of job evaluation and other procedures lead to the development of sound wage and salary structure. Prerequisite: Pers. 466 or instructor's consent. B 16 868 0 0515

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 16 890 9 0501

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 16 891 3 0501

893. Special Project in Personnel. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 16 893 3 0501

895-896. Thesis. (2-2). B 16 895 4 0501; B 16 896 4 0501

Real Estate

Department of Finance, Real Estate and Decision Sciences

Lower-Division Course

190. Selected Topics. (1-3), Repeatable with departmental consent. B 15 190 3 0511

Upper-Division Courses

310. Principles of Real Estate. (3). Economic, legal and physical characteristics of real estate. Overview of real estate, including contracts, deeds, title assurance, market analysis, appraisal, brokerage, mortgage financing, investment and property management principles. Prerequisite: junior standing. B 15 310 0 0511

390. Special Group Studies in Real Estate. (1-3). Repeatable with departmental consent. B 15 390 3 0511

438. Real Estate Law. (3). Laws and regulations affecting real estate ownership and use, including ownership interests, conveyancing, mortgages, title assurance, landlord-tenant relationships and public and private land-use controls. Prerequisite: junior standing. B 15 438 0 0511

491. Independent Study. (1-5). Offered for Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 grade point average in real estate courses. B 15 491 3 0501

492. Internship in Real Estate. (1-3). Offered for Cr/NCr only. Prerequisites: junior standing, 2.750 grade point average in real estate and departmental consent. B 15 492 2 0511

Courses for Graduate/Undergraduate Credit

664. Labor Relations. (3). A course designed to present the philosophy underlying labor legislation and the function of collective bargaining in labor-management relationships. Prerequisite: junior standing. B 15 664 0 0515

666. Selection, Training and Placement. (3). Analysis of advanced programs of employee selection, training and placement. Testing, interviewing, counseling, appraisal, job analysis and job design are explored. Prerequisites: Pers. 466 or departmental consent and junior standing. B 16 666 0 0515

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: Pers. 466 or departmental consent. B 16 690 9 0511

750. Workshop in Personnel. (1-4). Prerequisite: junior standing. B 16 750 9 0515

Courses for Graduate/Undergraduate Credit

611. Real Estate Finance. (3). Real estate financing instruments, institutions, traditional and creative financing techniques. Risk analysis, mortgage financing and underwriting, primary and secondary mortgage markets. Prerequisite: Fin. 340. RE majors should have completed RE 310. B 15 611 0 0511

614. Real Estate Appraisal. (3). Impact of socioeconomic conditions on real estate values. Cost, sales comparison and capitalized income approaches to market value. Demonstration appraisal. Prerequisite: RE 310. B 15 614 0 0511

618. Real Estate Investment Analysis. (3). Equity investor decision criteria, institutional and ownership entities, investment constraints, financial leverage opportunities, cash flow analysis and creative income tax strategies. Prerequisite: Fin. 340. RE majors should have completed RE 310. B 15 618 0 0511

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: junior standing. B 15 690 9 0511

750. Workshop in Real Estate. (1-4). Prerequisite: junior standing. B 15 750 9 0511

Courses for Graduate Students Only

810. Real Estate Feasibility Analysis. (3). Theory and practice of analyzing the feasibility of both new construction and redevelopment of income-producing projects. Detailed comprehensive feasibility studies are approached with contemporary analytical techniques. Prerequisite: RE 310, 614 and 618. B 15 810 0 0511

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 15 890 9 0511

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 15 891 3 0511

893. Special Project in Real Estate. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 15 893 2 0511

895-896. Thesis. (2-2). B 15 895 4 0511; B 15 896 4 0511

Small Business/Entrepreneurship

Department of Marketing and Small Business

Lower-Division Course

1600. Introduction to Entrepreneurship. (3). An introductory course that is designed not only to familiarize the student with the world of small business but also to analyze the personal strengths and weaknesses as they relate to launching an entrepreneurial
Upper-Division Courses

361. Entrepreneurship: The Start-Up. (3). This course will help the student explore various ways to own a business including starting a new business, buying a franchise or buying an existing business. Students will work in teams to identify a product or service need of their fellow WSU students or the larger Wichita community. They will develop a simplified business plan to start a profitable business to meet the needs identified. Pre-requisites: Mkt 300, Fin. 340 and Mgmt. 360 or consent of instructor. B 17 361 0 0506

465. Small Business Management. (3). The focus of this course is on the techniques of managing small businesses from startup to goal setting to efficient operations. Topics to be covered are (1) management concepts, (2) marketing techniques, (3) record-keeping procedures, (4) new product strategies and (5) small business finance. Prerequisites: Acctg. 210-220, Mkt. 300, Mgmt. 360 and junior standing. B 17 465 0 0506

491. Independent Study. (1-5). Offered for CrINCr only. Closed to graduate credit. Pre-requisites: junior standing and 2.750 grade point average in entrepreneurship courses. B 17 491 3 0506

492. Internship in Entrepreneurship. (1-3). Offered for CrINCr only. Prerequisites: junior standing, 2.750 grade point average in entrepreneurship and departmental consent. B 17 492 3 0506

Courses for Graduate/Undergraduate Credit

560. Consulting with Small Business. (3). This course will give hands-on experience consulting with an existing small business. Students will work with the owner in teams under the guidance of the instructor to identify the problem, gather information relevant to the problem, propose solutions to the problem and help the owner implement agreed upon solutions. The student will gain a personal knowledge of the lifestyle of an entrepreneur, both pro and con, as well as experienced-based knowledge about various aspects of managing a small business. Pre-requisites: Mkt. 300, Fin. 340, Mgmt. 360, senior standing. Preferred Sm. Bus. 465 also be taken. B 17 560 2 0506

668. Advanced Entrepreneurship. (3). This course will explore advanced subjects such as leveraged buyouts, R&D limited partnerships, private placements of stock, role of entrepreneur in economic development, marketing strategy for smaller businesses and strategic planning during early growth stages. The student will prepare a business plan and be required to present the plan for evaluation by a panel of academics from various business disciplines. Prerequisite: Sm. Bus. 668 or consent of instructor. B 17 668 2 0506

690. Special Topics in Entrepreneurship. (1-3). This advanced course will have in-depth discussion of emerging topics within the field of entrepreneurship. Topics to be discussed will be on a rotating basis, allowing the student to repeat the class once. Prerequisites: Sm. Bus. 668, Sm. Bus. 465, senior standing. B 17 690 9 0506

750. Workshop in Entrepreneurship. (1-4). Prerequisite: junior standing. B 17 750 2 0506

Courses for Graduate Students Only

868. New venture Feasibility Seminar. (3). The focus of this course is on directing students in the appropriate methods of selecting financial sources and in raising seed capital through the preparation of a comprehensive feasibility study. Topics to be covered are (1) sources of capital, such as venture capitalists, investment bankers, banks and creative forms of financing, (2) marketing opportunity analyses, (3) pro forma development, (4) feasibility decision making and (5) actual preparation of the loan package. Prerequisites: Sm. Bus. 668, Mkt. 800, Fin. 840, DS 850, Mgmt. 860 or equivalent and approval of the instructor. B 17 868 9 0506

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 17 890 9 0506

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 17 891 3 0506

893. Special Project in Entrepreneurship. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 17 893 3 0506
College of Education

Robert L. McCroskey, PhD, Interim Dean

Providing professional programs appropriate for the development of broadly educated and competent teachers, administrators, supervisors, counselors, school psychologists and other specialists is the principal purpose of the College of Education. The college's faculty provides leadership in professional service and research designed to contribute to the improvement of both schools and professional practice at local, state and national levels.

Curricula listed in the following sections are organized to give students an opportunity for systematic study. Programs are arranged to permit the development of (1) an understanding of education's place in a democratic society, (2) a philosophy of education consistent with functioning within that society, (3) an adequate professional preparation which affords an opportunity to relate content to practice, (4) a knowledge of human growth and development and (5) skills in the application of principles of human learning.

The College of Education is accredited by all appropriate agencies. (See the Accreditation and Associations section of the Catalog.) Since it is accredited by the State Board of Education in Kansas, the college can recommend to the board that appropriate teacher's certificates be awarded upon completion of other requirements established by the Kansas Board of Education.

Degrees Offered

Undergraduate

The college offers programs leading to the baccalaureate degree and/or to state teacher certification at the elementary, early childhood/elementary and secondary levels. The State Board of Education regulates the standards for all teaching certificates, and the curricula offered by the college are altered as needed to keep abreast of requirement changes established by the board.

Additional courses in industrial technology, physical education and recreation provide optional nonteaching routes to the baccalaureate degree.

A student may obtain a second bachelor's degree in the College of Education by being admitted to the College of Education, completing a minimum of 30 hours in a planned program in addition to the work required for the first bachelor's degree and satisfying the requirements for graduation from the College of Education.

Graduate

Course sequences available through departments within the Graduate School can lead to the Master of Education (MED) or Master of Science Education (MSE). Students wishing advanced course work in counseling and school psychology may fulfill program requirements leading to the Specialist in Education (EdS). Students may also earn graduate credit leading to the specialist degree in educational administration or the doctoral degree in educational administration through the doctoral transfer program with The University of Kansas. The Master of Arts (MA) and Doctor of Philosophy (PhD) can be earned through the Department of Communicative Disorders and Sciences.

The graduate offerings include programs designed to help students meet the requirements for certification as elementary principals, secondary principals, supervisory personnel, educational administrators, school counselors, early childhood teachers, early childhood/handicapped teachers, special education teachers, reading specialists, school psychologists, speech and language pathologists and audiologists, library/media specialists and other specialists. Master's programs in elementary education, secondary education and educational psychology have also been designed for teacher practitioners who wish to enhance their teaching skills levels. Master's study options are available also for persons interested in physical education and sports administration. For specific graduate programs see The Wichita State University Graduate Bulletin.

Policies

Admission to the College of Education

Before being admitted to the College of Education, students must fulfill the general entrance requirements of the University. To transfer to the College of Education, students must complete 24 hours and achieve a 2.250 grade point average.

Admission to Teacher Education Programs

Admission to the College of Education does not mean that a student is accepted into one of the teacher education certification programs. To be admitted as a candidate for the state teacher's certificate, students will meet the following criteria:

1. successfully complete IS 231
2. a competency test in reading, writing and mathematics
3. health examination
4. audio-visual literacy
5. computer literacy

(1) complete 50 semester hours of University credit
(2) attain a minimum grade point average of 2.500 overall as well as 2.500 in the major field
(3) have a grade of C or higher in English 101 and 102
(4) have a grade of C or higher in Speech 111 or 112
(5) have a grade of C or higher in English 101 and 102

Any student denied admission to the Teacher Education Program may appeal the denial by filing a written petition with the Admissions, Retentions and Exceptions Committee of the College of Education.

Enrollment Limits

Students enrolled in the College of Education may not enroll in more than 21 semester hours of work per semester during the academic year. Summer Session enrollments are limited to a maximum of six hours for each four-week session or 12 hours during the Summer Session. Students who have completed at least 24 hours at WSU with a WSU grade point average of 3.000 or higher may petition their department chairperson for permission to enroll in excess hours.

Probation and Dismissal

Students are expected to make satisfactory progress in their studies. Students who fail to do so may be placed on probation at any time and may ultimately be dismissed from Wichita State. Although a 2.500 GPA is required for admission to the teacher education program, students in the College of Education are placed formally on probation at any time and may ultimately be dismissed for poor scholarship.

For specific requirements see The Wichita State University Graduate Bulletin.
Students may not be academically dismissed at the end of a semester unless they began that semester on academic probation. Also, students may in no case be academically dismissed from Wichita State before they have attempted a total of at least 12 semester hours at the University after being placed on probation.

Students dismissed for poor scholarship may reenroll only with the special permission of the Admissions, Retentions and Exceptions Committee.

Students who have been dismissed for academic reasons may seek readmission to the College of Education by appealing in writing for an exception to the regulations. The College of Education requires petitioners to meet with an academic counselor and to prepare a written petition which is considered by the Admissions, Retentions and Exceptions Committee of the College of Education and then forwarded to the University's Committee on Admissions and Exceptions for final action.

Because counseling and advanced planning require careful attention and much time, students should secure their recent academic records, complete their petition and have had their readmissions counseling session at least five days before the first day of enrollment of the semester for which they wish to be readmitted.

Students develop their own cases for readmission. They should center their petitions around explanations for their failures and presentations of evidence for their future successes.

**Cooperative Education**

The College of Education is one of the participating colleges in the University Cooperative Education program. This program is designed to provide off-campus, paid work-related experiences which integrate, complement and enhance the student's regular academic program. Students are placed in a variety of educational experiences which range from early childhood through university settings. Participation in the program requires enrollment for credit in specific Cooperative Education courses designated by the various academic departments in the college. To enroll in the program or for more information, students should contact the college Cooperative Education coordinator.

**Requirements for Graduation and Certification**

Several sets of graduation requirements apply to undergraduates in the College of Education seeking a Bachelor of Arts (BA) in education or the institution's recommendation for a teaching certificate. Students should carefully study the requirements for their particular area of study.

Under Kansas Department of Education policies students are expected to complete all teacher education program requirements in effect at the time they begin their teacher education studies. Students transferring to the College of Education will be advised on the basis of the program (checksheet) in effect during the year of their transfer rather than the program (checksheet) in effect when they began their college or university work.

Students enrolled in the College of Education are expected to attain at least a 2.500 grade point average except for students in the nonteaching program in industrial technology who are required to maintain a 2.250 GPA. Admission to the student teaching semester requires an overall grade point average of at least 2.500 and at least a 2.500 average in the major field; a grade of C or higher in ENG. 101 and 102, or a statement of proficiency from the Department of English; a grade of C or higher in English 111 or 112, or an equivalent; and the recommendation of the teacher education representative of the student's major department. A grade of C or higher in student teaching is necessary to receive a recommendation for a teaching certificate.

Requirements for admission to student teaching for communicative disorders and sciences students are listed in the department's program description under secondary education. Certain programs may require a higher grade point average for admission to student teaching.

Prospective teachers in specialized fields of art and music are subject to certain departmental requirements and the general and professional education requirements listed under secondary education. Students planning to teach fine arts should consult the College of Fine Arts section of the Catalog.

Students interested in the following fields should contact an adviser in the College of Education: special education, bilingual education, in conjunction with either the elementary or secondary program; early childhood certification; and library certification, in conjunction with the elementary or secondary education programs.

Effective May 1, 1986, all graduates applying for teacher certification in Kansas are required to complete the National Teachers Examination established by the Kansas State Department of Education in order to qualify for their initial certificate.

**General Education**

A total of 42 hours of general education courses is required for all students in the college, including the following requirements for graduation:

I. Basic Skills (12 hours)
   A. Written communication (six hours)*
   B. Oral communication (three hours)*
   C. Mathematics (three hours)—college algebra

II. Distribution Requirements (G or Q courses only)
   A. At least nine hours of humanities and fine arts—literature (three hours), foreign languages, history, linguistics, musicology-composition, music education, philosophy, religion
   B. At least six hours of social and behavioral sciences—Psychology 111 (required), anthropology, economics, geography, political science, sociology
   C. At least six hours of natural sciences and mathematics—biology, chemistry, geology, mathematics, physics
   D. At least nine hours of electives from general education course work

Note: (a) No courses from the student's major department may be counted in the general education area; and (b) courses must be taken in at least two departments in each division outside the division containing the student's major. All course work in divisions A-D must be G or Q courses.

*Must have a grade of C or better in Eng. 101 and 102 and in Speech 111 or 112.

**Professional Education**

Professional education requirements in areas of specialization as well as additional general education requirements in these areas are summarized on the following pages.

**Communicative Disorders and Sciences**

I. General Education

Students majoring in Communicative Disorders and Sciences are expected to meet all general education requirements. In Division B, at least six hours of psychology are required. Within Division B, or in the Professional Education section, either Psych. 414, Child Psychology, or ISEP 233, Educational Psychology: Child Development, must be taken.

II. Professional Education
Selected courses from major, plus 18 hours including the following courses:

- IS 231, Teacher Education Lab, 0 hours
- IS 232, Introduction to Professional Education, 2 hours
- ISFD 234, Philosophy and History of Education, 2 hours
- ISFD 428, Social and Cultural Foundations of Education, 2 hours
- ISEP 233, Educational Psychology: Child Development, 3 hours
- ISEP 333, Educational Psychology: Adolescent Development, 3 hours
- ISEP 433, Educational Psychology: Learning and Evaluation (fall only) 3 hours
- ISEE 316, Children's Literature, 3 hours
- ISEE 443, Mathematics in the Elementary School, 3 hours
- ISEE 444, Classroom Dynamics, 2 hours
- ISEE 446, Elementary Education Student Teaching Seminar, 1 to 3 hours
- ISEE 447, Student Teaching in the Elementary School, 13 hours, and/or
- ISEE 448, Student Teaching in Early Childhood, 6 hours.

II. Professional Education (55 hours)

The following courses are required:

- IS 231, Teacher Education Lab, 0 hours
- IS 232, Introduction to Professional Education, 2 hours
- ISFD 234, Philosophy and History of Education, 2 hours
- ISFD 428, Social and Cultural Foundations of Education, 2 hours
- ISEP 233, Educational Psychology: Child Development, 3 hours
- ISEP 333, Educational Psychology: Adolescent Development, 3 hours
- IS 456, Multicultural Education, 3 hours
- IS 456, Multicultural Education, 3 hours
- ISSP 601, Introduction to Exceptional Children
- ISEE 442, Special Methods in Teaching
- ISEE 444, Mathematics in the Elementary School, 3 hours
- ISEE 446, Classroom Dynamics, 2 hours
- ISEE 446, Elementary Education Student Teaching Seminar, 1 to 3 hours
- ISEE 447, Student Teaching in the Elementary School, 13 hours, and/or
- ISEE 448, Student Teaching in Early Childhood, 6 hours.

* Student teaching semester

III. Allied Fields (21 hours)

The following courses are required:

- ISFD 234, Philosophy and History of Education, 2 hours
- ISFD 428, Social and Cultural Foundations of Education, 2 hours
- ISEE 316, Children's Literature, 3 hours
- ISEE 319, Language Arts in the Elementary School, 3 hours
- ISEE 321, Science in Elementary Education, 3 hours
- ISEE 406, Social Studies in the Elementary School, 3 hours
- ISEE 420, Reading in the Elementary School, 3 hours
- ISEE 421, Elementary Reading Practicum, 3 hours
- ISEE 443, Mathematics in the Elementary School, 3 hours
- ISEE 444, Classroom Dynamics, 2 hours
- ISEE 446, Elementary Education Student Teaching Seminar, 1 to 3 hours
- ISEE 447, Student Teaching in the Elementary School, 13 hours, and/or
- ISEE 448, Student Teaching in Early Childhood, 6 hours.

Secondary Education

I. General Education

Students majoring in secondary education should meet the requirements in the General Education Program as listed above.

II. Secondary Teaching Major

Students must fulfill the teaching specialty emphasis of a program as specified in the teaching field section that follows. Only those specialties listed among the combined curricula and departmental majors and minors in the majors and minors section may be counted.

1. Major field—a field normally taught in secondary schools should be studied.
2. Minor field—at least one minor field must be taken. Completion of a minor does not qualify the student to teach in minor fields. In no case may the minor consist of fewer than 15 semester hours. No minor is required if an area major of 50 hours is elected.

III. Professional Education

a. IS 232, Introduction to Professional Education (2 hours)
b. IS 231, Teacher Education Lab (0 hours)
c. ISEP 333, Educational Psychology: Adolescent Development (3 hours)
d. ISFD 234, Philosophy and History of Education (2 hours)
e. ISFD 428, Social and Cultural Foundations of Education (2 hours)

For majors in art, speech and drama, English, social studies, science and mathematics:

ISEP 433, Educational Psychology: Learning and Evaluation (fall only) 3 hours
ISEE 454, General Methods of Secondary Teaching (fall only) 3 hours
ISEE 455, Advanced Methods of Secondary Teaching (spring only)
ISEE 611, Introduction to Exceptional Children
ISEE 401, Secondary Reading Foundations
ISEE 442, Special Methods in Teaching
ISEE 444, Mathematics in the Elementary School, 3 hours
ISEE 447, Student Teaching in the Elementary School, 13 hours, and/or
ISEE 448, Student Teaching in Early Childhood, 6 hours.

See specific listing of course numbers under instructional services—Secondary Student Teaching.

Secondary Teaching Fields

The major is generally no fewer than 30 semester hours. (For specific exceptions see languages and the combined curricula programs.) Students may elect certain of the majors offered in Fairmount College of Liberal Arts and Sciences, the College of Fine Arts, the W. Frank Barton School of Business or the College of Education. Students meet the specific course requirements of the department in which the major is offered. For example, students may elect to major in history because they wish to become high school history teachers. To do so, they complete the history major as prescribed by the history department in Fairmount College of Liberal Arts and Sciences. In addition, they complete the University's general education requirements, the professional education sequence and other requirements for the teacher's certificate prior to graduation. Students should work closely with a faculty adviser in the College of Education.
The selection of teaching fields for the junior or senior high school is made with an academic adviser representing the College of Education. The teaching field or major should be declared no later than the beginning of the junior year. Students who plan to teach in secondary schools may select their major and minor from the fields given below. The specific course requirements of the department from which the major or minor work is taken depend upon the field. Any of the fields is suitable as a supporting minor, but it should be remembered that the minor will not qualify a student to teach unless special arrangements have been made in advance.

Majors and Minors

Art
Biological sciences
Business education
Chemistry
Economics
English language and literature
French
German
History
Industrial technology
Latin
Mathematics
Music
Natural sciences—biological
Natural sciences—physical
Physical education
Physics
Political science
Psychology
Social studies
Sociology
Spanish
Speech
Speech/theatre
Theatre

Minors Only

Accounting
American studies
Anthropology
Computer studies
Geography
Geology
Journalism
Philosophy
Religion and philosophy

Needs no minor if a 50-hour field major is outlined in consultation with an adviser from the College of Education. Students seeking a major in History, Psychology, or one of the social sciences should consult a social studies adviser in the College of Education concerning specific requirements. A minor is combined with philosophy on a minor—no more than eight hours of religion will count toward a degree.

Combined Curricula
The teaching assignment after graduation often involves a combination of related subjects. For this reason intensive study in the following combined disciplines is offered in lieu of a departmental major and minor. Students should work closely with advisers to ensure proper course selection for certification.

Business Education
Secondary business education majors at Wichita State will be certifiable in the various business subjects.

Courses

<table>
<thead>
<tr>
<th>Hrs.</th>
<th>Courses</th>
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<tbody>
<tr>
<td>Acctg. 210 and 220</td>
<td>6</td>
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<tr>
<td>CS 190 or CS 200Q and one programming course</td>
<td>3 to 6</td>
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<tr>
<td>DS 350 and 495</td>
<td>6</td>
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<tr>
<td>Econ. 201Q-202Q* and 231</td>
<td>10</td>
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<tr>
<td>Fin. 340</td>
<td>3</td>
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<tr>
<td>Math. 144</td>
<td>3</td>
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<tr>
<td>Mgmt. 360, 430 and 681</td>
<td>7 to 9</td>
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<tr>
<td>Mktg. 300</td>
<td>3</td>
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<tr>
<td>Business Education</td>
<td>27</td>
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<tr>
<td>Typewriting</td>
<td>6</td>
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<tr>
<td>Shorthand †</td>
<td>6</td>
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<tr>
<td>Records management—Bus. Ed. 136</td>
<td>3</td>
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<tr>
<td>Office procedures—Bus. Ed. 203</td>
<td>3</td>
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<tr>
<td>Office Machines—Bus. Ed. 204</td>
<td>3</td>
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<tr>
<td>Automated word processing—Bus. Ed. 260</td>
<td>3</td>
</tr>
<tr>
<td>Office practice—Bus. Ed. 300</td>
<td>3</td>
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</table>

Minor. For a business education minor, students take Acctg. 210 and 220; Econ. 201Q and 231; Bus. Ed. 136, 237 and 260; and nine hours, including one upper-division course, from the following: accounting, aviation management, business law, decision sciences, economics, finance, legal assistant, management, marketing, personnel, real estate, shorthand or small business and entrepreneurship. Additional work will be required for teacher certification.

Natural Sciences—Biological
This major requires a minimum of 50 hours. A teacher who qualifies under this provision may also teach chemistry and general science as well as biology. Students may make special arrangements to qualify to teach other sciences. Requirements for a major listed below include Division C requirements of the general education program.

Major. Requirements for a natural sciences—biological major are: Biol. 203Q, 204, 330, 418, 520 or 524, 509G or 584; any class in Botany; any one of Biol. 560, 575, 578, 640F; Chem. 111Q-112Q, 523, 531; Phys. 111Q or 213Q; Geol. 302Q; Math 112; IS 720, 721.

Natural Sciences—Physical
This major requires a minimum of 50 hours. A teacher who qualifies under this program may teach chemistry and general science as well as physical science. Students may also make special arrangements to qualify to teach other sciences. Requirements for a major listed below include Division C requirements of the general education program.

Major. Requirements for a natural sciences—physical major are: Biol. 203Q; Chem. 111Q-112Q; Geol. 302Q; Phys. 213Q-214Q, 195G, 196; Math 112; IS 720, 721; plus two of the following options: Phys. 551; or Geol. 111Q, 300Q, 312; or Chem. 523, 524, 531, 532; plus additional physical science hours to total 50.

Social Studies
Completion of the following program will lead to certification in comprehensive social studies at the secondary level. The following fields are included in this certification: American history, world history, government, anthropology, economics, geography, and sociology.

Major. The major requires the following:
1. American history (17 hours)
   a. History 131Q and 132Q | 8 |
   b. 9 hours chosen from:
      Hist. 517 and 518, Constitutional History | 6 |
      Hist. 521 and 522, Diplomatic History | 6 |
      Hist. 330G, The Americans | 3 |
      Hist. 530, American Women in History | 3 |
      Hist. 533, The American City | 3 |
2. World History (9 hours)—Hist. 101G and 102G, History of Western Civilization; 3 hours of UD non-U.S. history.
3. Political Science (12 hours)—Pol. Sci. 121Q, American Politics; 319, State Government; 3 hours from 226Q, 358Q and 444; plus 3 elective hours in Pol. Sci.
4. Anthropology (3 hours)—Anthro. 102Q, Cultural Anthropology, or Anthro. 124Q, General Anthropology.
5. Economics (3 hours)—Econ. 201Q, Principles of Economics.
6. Geography (3 hours)—Geog. 125Q, Principles of Geography, or Geog. 210Q, World Geography, or Geog. 262Q, Cultural Geography.
7. Sociology (3 hours)—Soc. 111Q, Introduction to Sociology.
Art Education
See Department of Art Education, College of Fine Arts.

Communicative Disorders and Sciences
The Department of Communicative Disorders and Sciences provides academic and clinical training for students at The Wichita State University who wish to work with communicatively handicapped children and adults. The undergraduate program offers broad, comprehensive and preprofessional preparation for specialized training, which is offered on the graduate level. Graduate work, culminating in a master's degree, is required to obtain professional certification as a speech and language clinician or audiologist in the public schools, hospital clinics or rehabilitation centers or to engage in private practice. With an undergraduate, preprofessional major, students can normally complete the master's program in one calendar year and be eligible for certification by the American Speech-Language-Hearing Association and the state of Kansas public schools. The PhD in communicative disorders and sciences prepares individuals to function professionally as independent clinicians or as teacher-scholars in an academic setting.

Undergraduate Major
The preprofessional, undergraduate major places primary emphasis on the general areas of communicative sciences and disorders and beginning specialized emphasis on speech and language pathology or audiology. Supervised practicum courses are required as part of the training program. CDS 417 and 418 are required for undergraduate students majoring in speech and language pathology, and CDS 447 and 448 are required for students wishing to qualify as speech and language clinicians in the public schools. CDS 447 is required for undergraduate students majoring in audiology, and CDS 457 and 458 are required for students wishing to qualify as audiologists in the public schools. CDS 785 is also required for all students on either an undergraduate or graduate level.

Students should make formal application for practicum courses during enrollment in CDS 220 or no later than the second semester of the sophomore year. Transfer students should apply during the semester prior to, or immediately upon, taking upper-division courses in the department. Evaluation of the student's speech, language and hearing proficiency will be conducted at this time. Significant deviations in any area must be corrected to maximum ability before enrollment in practicum courses or student teaching. Thus, admission to a major in CDS does not constitute assurance of automatic entrance into the practicum or student teaching sequence.

Undergraduate students may major in communicative disorders and sciences in either the College of Education or Fairmount College of Liberal Arts and Sciences. Most students take the program in the College of Education, but those wishing to prepare themselves exclusively for employment in community speech and hearing clinics or hospitals may enroll in Fairmount College of Liberal Arts and Sciences. In either case, all students must satisfy the general education requirements of the University. Students in the College of Education must select certain courses from the General Education Program that will satisfy the certification requirements. These are stated under general requirements at the beginning of the College of Education section of the Catalog.

Speech and Language Pathology
The major with emphasis in speech and language pathology consists of a minimum of 34 hours and includes the following courses:

Required: CDS 1110, 132, 214, 218, 220, 231, 315, 316, 322, 417, 418 and 520. To qualify as speech and language clinicians in the public schools, students must also complete CDS 327, 447 and 448.

Optional: CDS 540, 610, 700, 720, 726, 747, 760 and 785.

Audiology
The major with emphasis in audiology consists of a minimum of 35 hours and includes the following courses:

Required: CDS 1110, 132, 214, 218, 220, 231, 315, 316, 322, 417, 441 and 540. To qualify as an audiologist in the public schools, students must also complete CDS 327, 457 and 458.

Optional: CDS 610, 700, 735, 747, 760 and 785.

Deaf Education
Undergraduate preparation with beginning emphasis in deaf education consists of a minimum of 36 hours and includes the following courses:

Required: CDS 1110, 132, 214, 218, 220, 231, 315, 316, 540, 561, 747, 760 and 785. In addition, selected methods courses in elementary education will be chosen in consultation with an adviser.

Teacher Education
One full semester of student teaching is required for all students working toward certification as public school speech and language clinicians or audiologists. To complete this requirement, students must take CDS 417 and 418 or 441, in a clinical setting, and CDS 447 and 448, or CDS 457 and 458, in a public school setting, accumulating a total of ten hours of credit.

The assignment for student teaching begins with the opening of the public schools, and the student teacher is expected to follow the public school calendar, on a half-day basis, for a semester.

Students must apply for admission to both student teaching semesters (CDS 447, 417 and 418, or 441 and 457). They must have an overall grade point average of 2.500, a 2.500 average in the major field; a grade of C or higher in Speech 111 or 112, or their equivalents; and the recommendation of the major department. Medical clearance must also be obtained before the start of the student teaching assignment. Evaluation of the student's speech, language and hearing proficiency will be conducted at this time. Significant deviations in any area must be corrected to maximum ability before student teaching.

Certification
The communicative disorders and sciences undergraduate preprofessional major may be applied toward certification by the American Speech-Language-Hearing Association. This certification requires a master's degree, with major emphasis in speech and language pathology or in audiology.

Undergraduate Minor
A minor in communicative disorders and sciences consists of 18 hours and may be earned in either the College of Education or Fairmount College of Liberal Arts and Sciences. The following courses are recommended for a minor unless other arrangements are made: CDS 1110, 132, 214, 218, 220 and 316. Arrangements for the minor should be made in consultation with the Department of Communicative Disorders and Sciences.

Other Requirements
Participation in many of the department's clinical practicum courses requires that a student obtain medical clearance prior to the start of the course. This requirement is indicated in the individual course descriptions. Procedures to be followed may be obtained from the department's office. Also, seniors and graduate stu-
The study of the acquisition of language in the child from birth to six years of age. Various acquisition theories are evaluated in the light of current psychological and linguistic thought. Special emphasis is given to the development of phonology, morphology and syntax. Prerequisite: sophomore standing and prior or concurrent enrollment in CDS 216. D 12 220 0 1220

Upper-Division Course

316. Introduction to Speech and Hearing Sciences. (3). Examination of elements in the chain of events that lead to human communication. Speech production and perception are studied at physiological and acoustical levels, with primary emphasis on acoustics. Prerequisites: junior standing and prior or concurrent enrollment in CDS 111Q. D 12 316 0 1220

Courses for Graduate/Undergraduate Credit

610. The Neurology of Speech and Language. (4). A consideration of basic neuro-anatomy and neurophysiology necessary for obtaining an understanding of the representation of speech in the human and central nervous system and of conditions resulting from neurological impairment. Prerequisite: at least senior standing. D 12 610 0 1220

735. Anatomy, Physiology and Pathology of the Auditory System. (3). Detailed anatomy and function of the auditory system. Normal and pathological conditions are studied, with emphasis on clinical manifestations. Prerequisite: CDS 231. D 12 735 0 1220

Courses for Graduate Students Only

828. Advanced Speech and Hearing Science. (3). Detailed study of speech and hearing processes, primarily in their normal aspects. Attention is devoted to current understanding of speech generation, the speech signal and the normal function of hearing. Attention is also given to techniques of investigation of these processes. Prerequisite: CDS 316 or equivalent or departmental consent. D 12 828 0 1220

830. Laboratory instrumentation. (3). 2R; 3L. An introduction to clinical and research instrumentation used in the fields of communicative disorders and sciences. Experience with instrumentation is gained through practical projects and applications within the laboratory. Prerequisite: CDS 828. D 12 830 0 1220

857. Introduction to Psychoacoustics. (3). 3R; 1L. Basic principles underlying the perceptual hearing process, with emphasis on the interdependencies between sound stimuli and subjective auditory experience as related to communication behavior. Prerequisite: CDS 540. D 12 857 0 1220


910. Communicative Sciences: Acoustic Phonetics. (3). 3R; 2L. A critical review of research dealing with the acoustical characteristics of speech. Also included are speech perception and techniques of speech synthesis and analysis. Prerequisite: CDS 828. D 12 910 1 1220

920. Neurophysiology of Communication. (2). Special lectures, seminars, clinical demonstrations and independent study. D 12 920 0 1220

Speech and Language Pathology

Lower-Division Courses

111Q. Disorders of Human Communication. (3). An orientation to disorders of human communication, communicative and psychosocial problems commonly encountered and general approaches to habilitation. D 12 111Q 0 1220

132. Introduction to Clinical Management in Speech and Language Pathology and Audiology. (3). Prerequisites: CDS 111Q. An overview of management procedures for communicative disorders in relation to other educational disciplines. Techniques for observation of speech-language pathology management and audiology diagnostics will be presented, with opportunities for practice in a clinical setting. Twenty-five hours of observation of diagnostic procedures in a speech and hearing clinic are required. Prerequisites: prior or concurrent enrollment in CDS 111Q and medical clearance. D 12 132 1 1220

Upper-Division Courses

315. Articulation Disorders: Diagnosis and Clinical Management. (3). Contrast of normal and abnormal articulation. Etiology, evaluation and methods of modification are also included. Prerequisites: CDS 214 and 218. D 12 315 0 1220

322. Introduction to Speech and Language Assessment. (2). 2R; 2L. Test instruments pertaining to the assessment of speech and language disorders are examined. Test validity, reliability and interpretation are discussed. The student is provided the opportunity to administer selected tests under supervision. Opportunities to diagnostic evaluations in speech-language clinic are also required. Prerequisites: CDS 315, junior standing and medical clearance. D 12 322 0 1220

326. Clinical Methods in the Public Schools. (3). Organization, administration and professional relationships in public school speech and language management programs on the elementary and secondary school levels. Emphasis is given to procedures and materials for surveying, scheduling, writing IEP's; therapeutic management, record keeping and utilization of various instructional media. This course should be taken the semester prior to student teaching. Prerequisite: CDS 828. D 12 326 0 1220

400H. Honors Seminar. (2). Advanced study in selected areas of speech, language and hearing disorders, with students structuring the content of the seminar. Course provides an opportunity for original student contributions within a group seminar experience under the guidance of a senior professor. Prerequisites: CDS major with junior or senior standing who is eligible for the Emory Lindquist Honors Program. D 12 400H 1 1220

417. Clinical Methods in Articulation and Language. (3). Techniques and methods for developing of clinical skills in a supervised practicum setting. Children with articulation and language disorders will provide the pri-
mary focus. Lecture material will include clinical procedures for writing behavioral objectives and progress reports and conducting parent conferences. Prerequisites: junior or senior standing, CDS 132 and 315; prior or concurrent enrollment in CDS 322; departmental consent one semester prior to enrollment; and medical clearance. D 12 417 0 1220

418. Supervised Practicum in Articulation and Phonetics. (1). Supervised practicum of clinical assignments in the University Speech-Language-Hearing Clinic. Prerequisite: prior or concurrent enrollment in CDS 417. D 12 418 1 1220

447. Speech and Language Practicum in the Public Schools. (3). Half-time participation in a public school speech and language management program under the guidance of a certified clinician and a college supervisor. Prerequisites: senior standing, CDS 327, 417 and 418, departmental consent and semester prior to enrollment and medical clearance. D 12 447 2 1220

448. Public School Speech and Language Programs. (2). Discussion and evaluation of student teaching experiences in public schools. Exploration of applying clinical skills, counseling on the elementary and secondary school levels. To be taken concurrently with CDS 447. D 12 448 9 1220

490. Directed Study in Speech and Language Pathology of Audiology. (1-3). Individual study on speech problems. Repeatable for credit. Instructor's consent must be obtained prior to enrollment. D 12 490 3 1220

Admission to courses is possible with a minimum grade of C in each stated prerequisite or its judged equivalent, or with departmental consent, unless otherwise specified in the course description.

Courses for Graduates and Undergraduate Credit

520. Language Disabilities in Children. (3). Psycholinguistic and cognitive approaches to language disabilities in children. Practical application of language assessment procedures, interpretation of results and methods of language intervention are covered. Prerequisite: CDS 1110 or 705, 220 or departmental consent. D 12 520 0 1220

700. Cleft Palate: Evaluation and Clinical Management. (3). Methods of evaluating and modifying articulation and resonance in cleft palate individuals. The role of the speech clinician within an interdisciplinary team is explored. Consideration is given to other organic anomalies. Prerequisite: prior or concurrent enrollment in CDS 214. D 12 700 0 1220

705. Communicative Disorders. (3). Cross-listed as Speech 665. A survey of speech, language and hearing disorders, their identification and treatment; and consideration of the roles of health and educational specialists in the total habilitative process. Background in normal communicative structures, processes and acquisition is provided for understanding communicative disorders. Areas introduced include language disabilities in children, adult aphasia, articulation disorders, voice disorders, cleft palate, laryngectomy, stuttering, cerebral palsy and hearing impairment. Not open to students majoring in CDS. Credit in both CDS 1110 and 705 is not allowed. D 12 705 0 1220

720. Stuttering: Diagnosis and Clinical Management. (3). A review of current theories on the etiology and development of the disorder. Behaviorally based diagnostic procedures for children and adults are covered, as are methods for clinical management and real-life generalization, including procedures for parent and client intervening and counseling. Opportunities for observation and demonstration therapy are provided. D 12 720 0 1220

726. Voice Disorders: Diagnosis and Clinical Management. (3). Review of current knowledge on the symptomatology and etiology of commonly encountered voice disorders in children and adults. Presentation of procedures for differential diagnosis and clinical management, based on a working knowledge of the anatomy and physiology of normal voice production. Prerequisite: at least senior standing and CDS 214. D 12 726 0 1220

727. Teaching English as a Second Language. (2-3). Cross-listed as Eng. 727 and Ling. 727. Curricula for teaching English to nonnative speakers are discussed. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use. D 12 727 0 1220

Courses for Graduate Students Only

605. Adult Aphasia: Evaluation and Clinical Management. (3). Review of historical and contemporary literature, standard tests for evaluating and current management techniques for adults presenting communicative disorders in aphasia and procedures for planning rehabilitation regimens for adults. Prerequisite: prior or concurrent enrollment in CDS 613. D 12 605 3 1220

810. Cerebral Palsy: Evaluation and Clinical Management. (3). The study of cerebral palsy and related neurological disorders. An evaluation and modification of speech and speech-related functions and a study of the cerebral palsied individual in society are included. Prerequisite: prior or concurrent enrollment in CDS 610. D 12 810 3 1220

815. Interviewing and Parent Counseling. (3). Presentation of current techniques of case history taking and interviewing as they apply to speech, language, hearing, learning and behavior disorders in handicapped children and adults. Procedures employed in ongoing and terminal counseling are considered. D 12 815 0 1220

820. Examination Methods in Speech and Language Pathology. (3). Cross-listed as Speech 853. A survey of diagnostic and prognostic techniques in speech and language pathology. A weekly diagnostic practicum in communicative disorders is held, with experiences in report writing and follow-up procedures provided. Prerequisites: prerequisites and terminal semester of graduate program. D 12 820 1 1220

824. Language Intervention Strategies. (3). Discussion of current language intervention strategies and programs. Assessment procedures leading to the development of individualized programs are also examined. D 12 824 0 1220

825. Seminar in Communicative Disorders. (2-3). Review of recent developments and a study of methods of integrating research findings and newer clinical methods and concepts into a rehabilitative procedure. D 12 825 9 1220

834. Beginning Graduate Practicum in Communicative Disorders. (1). 3-9L. Supervised application of diagnostic and/or clinical management techniques with children and adults presenting communicative disorders. Introduction to supervised practicum at the graduate level. Clinic and practicum procedures are stressed in the clinical portion of the course. Fifty hours of practicum are required. Intended for students in their first semester of full-time graduate studies. Prerequisites: CDS 417 or its judged equivalent, CDS 447 or equivalent, departmental consent and medical clearance. D 12 834 2 1220

835. Graduate Practicum in Communicative Disorders. (1-3). 3-9L. Supervised application of diagnostic and/or clinical management techniques with children and adults presenting communicative disorders. Fifty hours of practicum for each hour of credit is required. Repeatable. Prerequisites: CDS 834 or equivalent, departmental consent and medical clearance. D 12 835 2 1220

Audiology

Lower-Division Course

231. Introduction to Audiology. (3). 1L: History and scope of the field. Basic aspects of normal hearing and the role of the audiologist. 3L: An introduction to the use of hearing aids, auditory training, lip reading and rehabilitation counseling. Intended for students majoring in CDS. Credit in both COS 231 and 231A is not allowed. D 12 231 1 1220

Upper-Division Courses

441. Beginning Practicum in Audiometrics. (1). 4L: Introduction to supervised practicum and the application of audiometric techniques in the clinical setting. Lecture stresses clinic and practicum procedures. Four hours of audiometric practicum per week are required. Prerequisites: CDS 231 or equivalent, medical clearance and departmental consent. D 12 441 2 1220

457. Audiology Practicum in the Public Schools. (5). Half-time participation in a public school audiology program under the guidance of a certified clinician and a college supervisor. Prerequisites: CDS 231, 357 and 441, senior standing, medical clearance and departmental consent one semester prior to enrollment. D 12 457 2 1220

458. Public School Audiology Programs. (2). Discussion and evaluation of student audiology experiences in public schools; demonstration of applied audiology skills; counseling on the elementary and secondary school levels. To be taken concurrently with CDS 457. D 12 458 9 1220

540. Introduction to Audiologic Technique. (3-5). Techniques and procedures for administering the basic audiological test battery and scoring tests for various age levels and the interpretation of audiometric results. Calibration and maintenance of audiometric equipment. Students majoring in audiology enroll for five hours of credit. Prerequisite: CDS 231 and at least junior standing. D 12 540 1 1220
Courses for Graduate/Undergraduate Credit

747. Rehabilitative Audiology. (3). Educational and psychological impact of hearing loss. Methods of improving the educational and family environment for the benefit of the hearing impaired are covered. Procedures for maximal usage of amplification are discussed. Speech reading and auditory training are studied as methodologies for dealing with speech and language deficits by utilizing auditory and visual cues. Prerequisite: CDS 231. D 12 747 0 1220

785. Supervised Practicum in Rehabilitative and Diagnostic Audiology. (1-3). 1R; 3-9L. Supervised experience in the teaching of speech, language, speech reading and listening skills to deaf or hard of hearing children and adults. Supervised experience in the testing of hearing. Three to four hours practicum per week are required for each hour of credit. Repeatable. Prerequisites: CDS 540 and prior or concurrent enrollment in CDS 747, departmental consent one semester prior to enrollment and medical clearance. D 12 785 2 1220

Courses for Graduate Students Only

850. Supervised Practicum in Audiometrics. (1-3). 1R; 3-9L. Application of audiometric techniques in clinical situations. Experience is gained in complete patient management, counseling and rehabilitation follow-up, when appropriate. Three to four hours of practicum per week are required for each hour of credit. Repeatable. Prerequisites: CDS 441 and 540. D 12 850 2 1220

855. Auditory Evaluation of Infants and Children. (3). 3R; 1L. Demonstration and practice in assessing auditory functioning of infants and children through 48 months of age. Report writing and parent counseling, as well as a study of appropriate instruments and procedures, are included. Prerequisites: CDS 540 and medical clearance. D 12 855 1 1220

860. Hearing Aids. (3). 3R; 2L. The history and function of hearing aids. The measurement and significance of the electroacoustic characteristics, the principles and procedures for the selection and recommendation of specific hearing aids for individual hearing losses, hearing aid orientation and counseling related to various age categories are covered. Prerequisite: CDS 540. D 12 860 1 1220

865. Advanced Clinical Audiology. (3). 3R; 2L. Diagnostic and rehabilitative procedures in the audiology clinic. Techniques and procedures for the administration and interpretation of special auditory tests include acoustic impedance and evoked auditory response measurements. Prerequisite: CDS 540. D 12 865 1 1220

870. Seminar in Audiology. (2-3). Review of recent developments and research, with attention given to industrial audiology and environmental noise abatement. Prerequisite: CDS 540. D 12 870 9 1220

875. Physiologic Measures of the Auditory and Vestibular Systems. (3). 3R; 1L. Techniques and procedures for administration and interpretation of physiologic tests of the auditory and vestibular systems, including electrocochleography (ECOG), auditory brainstem response (ABR), electromyography (ENG) and acoustic reflex. Test administration practicum is included. Prerequisites: CDS 540, 735 and 610 (may be taken concurrently). D 12 875 1 1220

Deaf Education Courses for Graduate/Undergraduate Credit

260. Signing Exact English I. (1). 2R. Introduction to the theory and use of Signing Exact English (SEE) as a means of communication with the hearing impaired. Vocabulary and interpreting skills will be emphasized. Prerequisite: CDS 260. D 12 260 0 1220

360. Signing Exact English II. (1). 2R. An advanced class in the theory and use of Signing Exact English (SEE) as a means of communication with the hearing impaired. Vocabulary and interpreting skills will be emphasized. Prerequisite: CDS 260. D 12 360 0 1220

760. Introduction to Deaf Education. (3). Evolution of educational programs and methods used with the deaf. Contributions of related disciples to educational methodology and special aspects of curriculum development in schools and classes for the deaf are surveyed. Also included is a review of common communication systems and social and vocational considerations. Prerequisite: CDS 231. D 12 760 0 1220

General Lower-Division Course

281. Cooperative Education. (1-3). A course offered to allow students to participate in the Cooperative Education program. Offered C/NCR only. D 12 281 2 1220

Upper-Division Courses

481. Cooperative Education. (1-8). A course offered to allow students to participate in the Cooperative Education program. Offered C/NCR only. D 12 481 2 1220

490. Directed Study in Speech and Language Pathology or Audiology. (1-3). Individual study or research on specific problems. Repeatable. Instructor's consent must be obtained prior to enrollment. D 12 490 3 1220

Courses for Graduate/Undergraduate Credit

715. Selected Topics in Communicative Disorders and Sciences. (1-3). Individual or group study in specialized areas of communicative sciences and disorders. Repeatable. D 12 715 0 1220

750. Workshop in Communicative Disorders and Sciences. (1-4). A course offered periodically on selected aspects of speech and hearing habilitation. D 12 750 0 1220

Courses for Graduate Students Only

800. Introduction to Graduate Study and Research. (3). A general introduction to graduate study. A survey is made of research procedures utilized in the fields of communication sciences and communication pathology. Presentation of principles for scientific writing and critical reading of professional research journals is included. Final project involves the formulation of a possible research methodology in the area of communication science or communication pathology. D 12 800 0 1220

880. Presentation of Research. (1-3). A directed research project culminating in a manuscript appropriate for publication. Repeatable, but total credit hours may not exceed three. Prerequisites: CDS 800 and instructor's consent prior to enrollment. D 12 880 4 1220

890. Independent Study in Speech and Language Pathology or Audiology. (1-3). Arranged individual, directed study in specialized content areas in speech and language pathology or audiology. Repeatable. Prerequisite: instructor's consent prior to enrollment. D 12 890 3 1220

895. Thesis Research. (1-2). Repeatable, but total credit hours counted toward degree requirements must not exceed two. D 12 895 1 1220

899. Thesis. (1-2). Repeatable, but total credit hours counted toward degree requirements shall not exceed two. D 12 899 4 1220

915. Advanced Selected Topics in Communicative Disorders and Sciences. (1-4). Advanced individual or group study in specialized areas of communicative sciences and disorders. Intended for doctoral students or advanced master's-level students. Repeatable. D 12 915 0 1220

925. Clinic and Program Administration. (2). Approaches to clinical administration and rehabilitation program planning and development. Attention is given to community analysis and utilization, personnel management, evaluation of program effectiveness, standards for accountability and fiscal procedures. D 12 925 0 1220

930. Seminar in Clinical Research. (3). Presentation of advanced models in research design applicable to the investigation of recent developments and research, with attention given to industrial audiology and environmental noise abatement. Prerequisite: CDS 540 and medical clearance. D 12 930 9 1220

935. Advanced Practicum in Communicative Disorders and Sciences. (1-4). 1R; 3-12L. Supervised internship in one or more of the following areas: Advanced Practicum in Client Management, Advanced Practicum in Clinical Supervision, Advanced Practicum in Academic Instruction, Advanced Practicum in Research and Advanced Practicum in Clinical and Program Administration. This course is intended for doctoral students or advanced master's-level students. Repeatable, more than one section may be taken concurrently. D 12 935 2 1220

990. Advanced Independent Study in Speech and Language Pathology, Audiology or Speech Science. (1-3). Arranged individual, directed study in specialized content areas in speech and language pathology, audiology or speech sciences. Repeatable. Prerequisites: advanced standing and instructor's consent. D 12 990 3 1220


Industrial Technology

The overall goal of the department of Industrial Technology is to provide a broad concept of industrial strategies.
Within this concept students are given specific educational content that will allow them to pursue a management-oriented technical profession. The curriculum is built upon a sound knowledge and understanding of materials, processes, technical management and human relations. Proficiencies in the physical sciences, mathematics and technical skills enable the graduate to address capably technical, managerial and production problems.

The Bachelor of Science degree in Industrial Technology requires the development of technical skills at post-secondary schools other than The Wichita State University. The curriculum is designed to build upon technical specialties (construction, computers, drafting, electricity, electronics, graphic arts, metals, power, photography, plastics, woodworking, etc.) developed at a community college or technical institution. Technical specialty competency will be evaluated by the industrial technology faculty.

Cooperative Education (work experience in the technical emphasis area) forms an integral part of this curriculum by blending the theories of the classroom with state-of-the-art experiences in industry.

The industrial technology program may be tailored to prepare the student for either employment in teaching or industry. Teaching opportunities are available at both secondary and post-secondary levels. Opportunities in industry may include production or construction supervision, quality assurance, process management, systems analysis, production control, cost estimating, purchasing, product design, tool design, prototype development and technical communications.

Undergraduate Minor—Technical Emphasis. This minor requires a minimum of 18 semester hours. Courses must be chosen in consultation with the department advisers.

Admission to the industrial technology program requires a 2.250 grade point average. Students who fail to make satisfactory progress in their studies are governed by College of Education policies on probation and dismissal.

Graduate Courses. The Master of Education program provides for specialization in secondary education with an emphasis in industrial education. Courses must be selected in consultation with the student's graduate adviser. For further information consult The Wichita State University Graduate Bulletin.

## Industrial Technology Major

A degree in Industrial Technology requires:

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<thead>
<tr>
<th>Teaching Option</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education*</td>
<td>42</td>
</tr>
<tr>
<td>Technical specialty</td>
<td>30</td>
</tr>
<tr>
<td>Industrial Technology courses</td>
<td>29</td>
</tr>
<tr>
<td>Supplemental required courses</td>
<td>3</td>
</tr>
<tr>
<td>Teacher Certification requirements</td>
<td>3</td>
</tr>
<tr>
<td>Total Hours</td>
<td>136</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Technical Option</th>
<th>Hours</th>
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<tbody>
<tr>
<td>General Education*</td>
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</tr>
<tr>
<td>Technical specialty</td>
<td>30</td>
</tr>
<tr>
<td>Industrial Technology courses</td>
<td>42</td>
</tr>
<tr>
<td>Supplemental required courses</td>
<td>15</td>
</tr>
<tr>
<td>Total Hours</td>
<td>129</td>
</tr>
</tbody>
</table>

*General Education courses must include literature, Division A: Psychology 111Q, Division B: Chemistry 111Q, Division C: and Physics 111Q, Division C.

### Model Program (Teaching Option)

#### Freshman

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>Eng. 101, College English I (C or better)</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 102, College English II (C or better)</td>
<td>3</td>
</tr>
<tr>
<td>Math. 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Math. 123, College Trigonometry</td>
<td>3</td>
</tr>
<tr>
<td>IT 120, Drafting I</td>
<td>3</td>
</tr>
<tr>
<td>IT 121, Drafting II</td>
<td>3</td>
</tr>
<tr>
<td>Technical specialty</td>
<td>12</td>
</tr>
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</table>

#### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Phys. 111Q, Introduction to Physics</td>
<td>4</td>
</tr>
<tr>
<td>Spch. 111, Basic Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Psy. 111Q, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Technical specialty</td>
<td>12</td>
</tr>
<tr>
<td>Humanities (Division A)</td>
<td>3</td>
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#### Summer

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education electives</td>
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</table>

#### Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
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<tbody>
<tr>
<td>IT 300, Concepts of Industrial Technology</td>
<td>3</td>
</tr>
<tr>
<td>IT 310, Safety Product Liability and Litigation</td>
<td>3</td>
</tr>
<tr>
<td>IT 440, Industrial Technology Education</td>
<td>3</td>
</tr>
<tr>
<td>IT 470, Industrial Organizational Analysis</td>
<td>3</td>
</tr>
<tr>
<td>IT 481-A, Cooperative Education Part I</td>
<td>4</td>
</tr>
<tr>
<td>IS 231, Entry into Teacher Education Lab</td>
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</tbody>
</table>

## IS 232, Introduction to Professional Education

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT 360, Industrial Design Technology</td>
<td>3</td>
</tr>
<tr>
<td>IT 400, Computer Applications in Industry</td>
<td>3</td>
</tr>
<tr>
<td>ISSE 401, Reading in the Content Area</td>
<td>3</td>
</tr>
<tr>
<td>ISFE 428, Social Foundations of Education</td>
<td>2</td>
</tr>
<tr>
<td>ISEP 433, Educational Psychology, Learning and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>IS 456, Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>ISSE 442-I, Methods of Teaching Industrial Technology Education</td>
<td>4</td>
</tr>
<tr>
<td>ISSE 467-E, Student Teaching, Secondary Education</td>
<td>7</td>
</tr>
<tr>
<td>ISSP 601, Introduction to the Exceptional Child</td>
<td>3</td>
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</tbody>
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### Model Program (Technical Option)

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<td>Humanities (Division A)</td>
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### IS 232, Introduction to Professional Education

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IT 310, Safety Product Liability and Litigation ........... 3
IT 470, Industrial Organizational Analysis ............... 3
IT 481-A, Cooperative Education Part I ................. 4
Psy 316, Industrial Psychology ........................ 3
Social/Behavioral Science (Division B) ................. 3
Humanities (Division A) including
3 hours Literature ........................................... 9
General Education Elective ....................... 3

Summer
Course Hrs.  
IT 480, Applied Problem Solving 3
IT 481-B, Cooperative Education Part II ............ 4
DS 350, Introduction to Production and Operations Management 3

Senior
Course Hrs.  
IT 360, Industrial Design Technology ................ 3
IT 400, Computer Applications in industry .......... 3
IT 430, Product Development .......................... 3
Mgmt 462, Leadership and Motivation ............. 3
IT 320, Quality Assurance ............................. 3
IT 490, Senior Problems in Industrial Technology .... 3
IT 481-C, Cooperative Education Part III .......... 4
Mgmt 390, Concepts of Administration .............. 3
IT 330, Manufacturing; Estimating, Planning, and Operations 3
or
IT 350, Construction; Estimating, Blueprint Reading .... 3

Lower-Division Courses
112. Construction Technology. (3). 2R; 3L. A course emphasizing the understanding of technology and the scope of industry as it applies to construction. Instruction includes occupationally oriented laboratory activities to reinforce the student's understanding of how man plans, organizes and controls all available resources to produce products on site. D 11 112 1 0839

113. Manufacturing Technology. (3). 2R; 3L. A study of how industry integrates man, machines and materials into efficient production systems. The study focuses on the management, personnel and production techniques of manufacturing. D 11 113 1 0839

120. Drafting I. (3). 2R; 3L. An introduction to orthographic projection, pictorial representations with emphasis placed on auxiliary views, sectional views, sketching, revolutions, dimensioning, lettering and care and use of drafting instruments. D 11 120 1 0839

121. Drafting II. (3). 2R; 3L. A study of the relationship of views in drafting, with emphasis on rotation, projection of solids, planes and lines using standard drafting techniques and procedures. Prerequisite: IT 120. D 11 121 1 0839

170. Materials and Processes. (3). 2R; 3L. A study of basic material processing methods, emphasizing those processes most commonly used in all industries. Through laboratory applications, the student can develop an understanding of material processing that will facilitate the appropriate selection of suitable material and processes for particular projects. D 11 170 1 0839

180. Power and Energy. (3). 2R; 3L. A study of energy sources, means of harnessing energy, transmitting energy and the effects of power systems. The major types of power and energy to be considered are mechanical, fluid, electrical and combinations. D 11 180 1 0839

190. Visual Communications. (3). 2R; 3L. A study of systematic procedures common to visual communications, including analysis of communication problems; selection of media; communication preparation, communication dissemination, communication evaluation and communication storage and retrieval systems. Students develop communication projects using each of the following media: technical graphics, printing, television and photography. D 11 190 1 0839

230. Metalsa I. (3). 2R; 3L. A basic course dealing with the processes, equipment, materials and products of the metal-working industry; lab experience in sheetmetal, benchmetals, forgings, founding, welding and machine tools. D 11 230 1 0839

240. Woodwork I. (3). 2R; 3L. A study of the use and care of hand and power tools, methods of finishing, wood technology and an overall view of the woods industry. D 11 240 1 0839

255. Power Mechanics I. (3). 2R; 3L. A study of the operation of motor vehicles, including chassis and drive-line components. Lab experiences include repair techniques and procedures. D 11 255 1 0839

260. Plastics I. (3). 2R; 3L. Study of plastic materials being used in industry; fundamental operations including molding, casting, thermostatic, metal framing, fabrication and finishing. D 11 260 1 0839

280. Electricity I. (3). 2R; 3L. A study of basic principles of electricity and electronics as related to home and industry. Emphasis on electrical theory, transmission and utilization. Laboratory activities include experimentation and fabrication of electrical components. D 11 280 1 0839

Upper-Division Courses
300. Concepts of Industrial Technology. (3). An introduction to industrial technology, including how materials are altered by industrial processes; utilization and application of energy systems; and the processes of industrial visual communications. D 11 300 0 0839

310. Safety, Product Liability and Litigation. (3). The study of corporate policies as related to accident prevention programs for safety and loss reduction from the perspective of the industrial technologist. Emphasis is upon safety, safety education, product liability and litigation. Prerequisite: departmental consent. D 11 310 0 0839

320. Quality Assurance. (3). Industrial practices with respect to the control of quality of manufactured products and construction projects including standards, inspection, organization, sampling, corrective and preventive measures. Quality assurance simulations will be provided. Prerequisite: departmental consent. D 11 320 0 0839

325. Woodwork III. (3). 2R; 3L. For advanced woodworking students with special emphasis on tools, materials and construction practices as they relate to the building trades. Prerequisite: IT 240. D 11 325 1 0839

328. Drafting III. (3). 2R; 3L. Development of working drawings in machine, aircraft, structural steel, electrical and architectural details, pipe, map and patent drawings—all conforming to industrial and prescribed standards. Prerequisite: IT 121. D 11 328 1 0839

330. Manufacturing: Estimating, Planning and Scheduling. (3). Production planning and scheduling of human resources in relation to facilities, tools, equipment, capital and materials. Emphasis is placed on computer data base information to enhance standardized techniques used in product and service management. Prerequisite: departmental consent. D 11 330 0 0839

331. Metals II. (3). 2R; 3L. A study of materials, machines and hand tools used by the metalworking industry and intermediate machine tool operations. Prerequisite: IT 230. D 11 331 0 0839

337. Metals III. (3). 2R; 3L. A study of the structure, physical and mechanical properties of metals and the effect of heat treatment on these characteristics. An introduction to hot working metals by forging and casting. Emphasis is placed on combining metals by oxyacetylene, arc, MIG and TIG welding techniques. Prerequisite: IT 230. D 11 337 1 0839

340G. Appropriate Technology. (3). A study of new technological approaches and their contribution to quality living. Technological options in the production and consumption of food, clothing, shelter, energy, communication and transportation will be explored and a framework developed for making wise choices within the options. This course may not be counted toward an industrial education major. D 11 340G 0 0839

341. Woodwork II. (3). 2R; 3L. A study in design, construction and finishing of woodworking projects with special emphasis on woodworking machine tools including methods and processes used by industry. Prerequisite: IT 240. D 11 341 1 0839

350. Construction: Cost Estimating and Blueprint Reading. (3). Techniques of conveying information from the architect/engineer to the contractor by means of a legal document. The basic information that contractual understanding. D 11 350 0 0839

351. Power Mechanics II. (3). 2R; 3L. A study of motor vehicles, including tune-up, electrical systems, fuel systems and engine service. D 11 351 1 0839

360. Industrial Design Technology. (3). An introduction to industrial design techniques emphasizing the pertinent elements of design and the procedural steps in designing industrial and architectural products related to construction and manufacturing. Prerequisite: departmental consent. D 11 360 0 0839

361. Plastics II. (3). 2R; 3L. Technical information and product development and con-
382. Electronics II. (3) 2R; 3L. A basic study of electronics, including the function of components. Inductive circuits, networking and transistor theory as applicable to analog electronics are studied and applied through experimental laboratory projects. Prerequisite: IT 280. D 11 381 1 0839

384. Electronics III. (3) 2R; 3L. Course includes the theory, instrumentation and application of semiconductors in electronic circuits. Emphasis is placed on utilization of integrated circuits in digital applications. Prerequisite: IT 381. D 11 384 1 0839

400. Machine Control Systems. (3) The control of industrial machines through electro-mechanical devices. An overview of the functions that make up automation systems—open loop, closed loop, continuous and discrete systems—process and discrete parts. Programmable controllers, programmable controllers and robotic applications are also included. Prerequisite: departmental consent. D 11 420 0 0839

426. Woodwork IV. (3) 2R; 3L. Advanced study for specialists in the woodworking field with emphasis placed on problems growing from the needs of the student. Prerequisite: IT 341. D 11 426 1 0839

429. Drafting IV. (3) 2R; 3L. Advanced study for drafting students with emphasis on problems growing from the needs of students. Study of drafting performances and processes. Complete dwelling and machine problems with special emphasis on industrial practices and procedures are included. Prerequisite: IT 328. D 11 429 1 0839

430. Product Development. (3) An applications course for industrial personnel involved in product development. Emphasis is placed upon the "team" approach in formulating ideas, screening techniques, market research, feasibility studies, protection, determining profit margins, building prototypes, productivity and performance testing. Prerequisite: 300, 310 and 320 or concurrent enrollment. D 11 430 0 0839

443. Methods of Teaching in the Comprehensive General Shop. (3) 2R; 3L. Preparation for teaching industrial technology in the comprehensive general shop. Emphasis is placed upon theory, organization and operation of a comprehensive general shop program. encompasses the first semester or prerequisite: departmental consent. D 11 443 1 0839

440. Industrial Technology Education. (3) An introduction to a variety of conditions, role models, curriculum plans, classroom laboratory methodologies and simulations. Emphasis upon procedures used in industry. D 11 440 0 0839

450. Metals IV. (3) 2R; 3L. Fundamentals of bench work and basic operations of lathes, mills, grinders, shapers, and drills. Prerequisite: IT 331 D 11 450 1 0839

457. Power Mechanics IV. (3). 2R; 3L. Advanced study in the power mechanics field with emphasis placed on problems growing from the needs of students. Prerequisite: departmental consent. D 11 457 1 0839

463. Plastics IV. (3) 3R; 3L. Advanced problems in production techniques. Extrusion, rotational casting and foaming are included and recent developments and experimental work are explored. Prerequisite: IT 362. D 11 463 1 0839

470. Industrial Organizational Analysis. (3) An analysis of industrial concepts, models and organizational structures. Course work will relate to concurrent cooperative education experience. Prerequisite: concurrent enrollment with IT 481-A. D 11 470 0 0839

480. Applied Problem Solving. (3) Synthesis of previous course work in special technical and management problems relative to the student area of specialization. Techniques with which the student can address problems in a logical, systematic sequence. Group participatory problem-solving strategies are utilized. Prerequisite: concurrent enrollment in IT 481-B or departmental consent. D 11 480 0 0839

481. Cooperative Education. (1-4). A course offered to allow students to participate in the Cooperative Education program. Offered Cr/Nor only. D 11 481 2 0839

481-A. Cooperative Education—Part 1. (4) This is the first of three required courses designed to develop the management and technical skills of special requirements. Students will work with employers, pursue educational inquiry into marketing, production, industrial relations and management. Prerequisites: IIT 481-A, 481-B and concurrent enrollment in IT 481-B or departmental consent. D 11 481 2 0839

481-B. Cooperative Education—Part 2. (4) The second of three required courses: The students' level of experience in their special field and their experience in IT 481-A determines the appropriate co-op placement. Emphasis is placed on both application and theory through involvement with specific problems in business and industry. Job requirements and employer expectations should increase concurrently with the student's academic progression. Prerequisites: IT 481-A and concurrent enrollment in 480. D 11 481 2 0839

481-C. Cooperative Education—Part 3. (4) The third of three required courses: A culminated field experience in which the student, upon completion of the placement with a specific employer, identifies an existing problem and designs and presents an operational solution. Prerequisites: IT 470, 480, 481-A, 481-B and concurrent enrollment in 490. D 11 481-C 2 0839

485. Electronics IV. (3). 2R; 3L. Motors and generators: synchronous and alternators; control systems; servomechanical devices and systems; industrial measurement and control systems; introduction to microcircuits and microprocessors; microwave transmitters, microwave amplifiers and microwave mixers; microwave receivers, multiplexing, radar detection and navigation systems. Prerequisite: IT 384. D 11 485 0 0839

490. Senior Problems in Industrial Technology. (3) Provides an opportunity for students to focus on their area of specialization, in consultation with the professor; culminating in a research project. Prerequisites: IT 481-A, 481-B and concurrent enrollment in 481-C. D 11 490 4 0839

Courses for Graduate/Undergraduate Credit

500. Industrial Field Studies. (1-4). An in-depth analysis of industrial concepts from the perspective of an industrial employee. A research project. The paper involves a critical evaluation of the state-of-the-art in a local industrial firm. A one-hour group conference is held on campus each week for purposes of directing student participation. The student will select specific areas from the industrial principles listed above. D 11 500 2 0839

501. Preparation of Instructional Materials. (3). The selection, development and organization of instructional materials for effective teaching of industrial technology. D 11 501 0 0839

519. Shop Planning and Organization. (3). Selection, purchase and organization of shop equipment and supplies. Developing and maintaining necessary records and reports and the planning of shop facilities are also included. D 11 519 0 0839

570. Directed Studies in Materials and Processes. (3) This course will provide an opportunity for the advanced student to pursue an area of specialization within the realm of materials and processes on a synthesis level. The student, in consultation with the professor, will select specific areas from the industrial principles listed above. D 11 570 4 0839

580. Directed Studies in Power and Energy. (3) Provides an opportunity for the advanced student to pursue an area of specialization within the realm of power and energy on a synthesis level. The method of study will be research, basic and applied, or a combination thereof, in consultation with the professor; culminating in a research project and/or report. Prerequisites: departmental consent. D 11 580 4 0839

590. Directed Studies in Visual Communications. (3) Provides an opportunity for the advanced student to pursue an area of emphasis within the realm of visual communications on a synthesis level. The method of study will be research, basic and applied, or a combination thereof, in consultation with the professor; culminating in a research project and/or report. Prerequisites: departmental consent. D 11 590 4 0839

750. Workshop in Industrial Technology. (1-4). Offered from time to time on various aspects of industrial education. D 11 750 2 0839

751. Institute in Industrial Technology. (1-4). A course designed to develop knowledge and competence related to curricular and methodological innovations in industrial education. The content is designed to satisfy...
Courses for Graduate Students Only

820. Foundations for Curriculum Development in Industrial Technology. (3) A study of the theory and practice of curriculum development as determined by social, cultural and industrial changes, including current industrial technology curriculum designs, problems and trends. D 11 820 0 0839

821. Curriculum Construction in Industrial Technology. (3) Selection and construction of curriculum content for general and specialized areas of study in industrial technology. Prerequisite: IT 820. D 11 821 0 0839

840. Instructional Technology in Industrial Technology. (3) A course designed to acquaint graduate students with the emerging technology of instruction. The course includes a study of programmed instruction, systems approach to instruction, instructional television, projected media, motion films, computer-assisted instruction, learning resource centers and other pertinent topics. Students are involved in planning and preparing a multimedia unit utilizing systematic procedures. Prerequisite: departmental consent. D 11 840 0 0839

860. Seminar in Industrial Technology. (1-3) Innovations and critical analysis of contemporary problems in industrial arts and vocational education with directed reading and research. Repeatable. D 11 860 0 0839

Instructional Services

Instructional Services—General courses may apply to the program areas of early childhood, educational psychology, elementary education, special education and secondary education.

Lower-Division Courses

231. Teacher Education Lab. (6). During the sessions, students receive information concerning the English and mathematics competency examinations and are given the audiovisual and computer equipment use checklists. For courses in the GPPA; C or better in Eng. 101, 102 and Speech 111 or 112; 50 hours credit by the end of the semester of enrollment. D 21 231 2 0801

232. Introduction to Professional Education. (2). This first course in professional education prepares students to become acquainted with the school as an organization, the nature of the curriculum, the human relations aspects of education and career opportunities outside of public schools. The major topics studied. Twenty hours of field experience in the schools are required. Prerequisites: sophomore standing and grade of C or better in Eng. 101 and 102. D 21 232 0 0801

290. Directed Study. (2-3). D 21 290 2 0801

Upper-Division Courses

452. Special Studies in Education. (1-3). Designed primarily for elementary and secondary education majors. Repeatable with advisor’s consent. D 21 452 2 0802

453. Classroom Dynamics. (2). Study of concepts from sociology and psychology with purpose of learning to effectively use groups to prevent classroom problems, analyze the social system in a classroom and to manage individuals and groups within the classroom. Prerequisite: concurrent enrollment in secondary or elementary student teaching. D 21 453 0 0801

456. Multicultural Education. (3). Examination of concepts of race, racism, culture, social class, oppression, cultural pluralism and their implications for education generally and the classroom specifically. Educational materials and instructional strategies are analyzed with regard to the concepts studied. D 21 456 0 0801

481. Cooperative Education. (1-8). The goal of this course is to provide the student a work-related placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Prerequisite: successful completion of 24 credit hours, 2.250 grade point average and IS 232. Repeatable for credit. Offered On/Off only. D 21 481 2 0801

490. Individual Studies in Education. (1-3). D 21 490 3 0802

Courses for Graduate/Undergraduate Credit

620. Introduction to Middle-Level Education. (3). An overview of the historical, philosophical, social and psychological factors affecting the movement toward better educational opportunities for learners from ages 10 to 14. D 21 620 0 0829

621. Curriculum/Instruction Alternatives for Middle-Level Education. (3). An exploration into the development of alternative curricular organizations and instructional strategies for better meeting the needs of grade-level centered in grades five through nine. D 21 621 0 0829

703. Research and Implementation of Learning Centers. (3). This course will consider a variety of alternative approaches to the teaching of students at all grade levels and subject matter areas via learning centers. D 21 703 0 0801

714. Activities for Human Relations I. (6). Topics covered are values, communication and creativity. Activities in the above areas can be used by individuals and groups in instructional settings. They are used to explain, teach and enhance human relationships. D 21 714 0 0829

715. Activities for Human Relations II. (3). Topics covered are introductory activities, cooperation and self-awareness. Activities in the above areas can be used by individuals and groups in instructional settings. They are used to explain, teach and enhance human relationships. D 21 715 0 0829

718. Group Dynamics for Educators. (3). A laboratory course in human relations and group dynamics based on involvement in various group activities. D 21 718 0 0829

720. Microcomputers in the Classroom. (2). Course is designed to familiarize students with the various areas of computer application in education. No computer experience is necessary. Students develop a working knowledge of computer functions, applications software and technology that are relevant to ordinary classroom use. Prerequisite: upper division standing. D 21 720 1 0899

721. Beginning Applesoft BASIC. (1). An introduction to classroom programming applications. Students develop a practical and working knowledge of skills in programming Applesoft BASIC and are able to plan, write, debug and modify simple programs for classroom use. Prerequisite: IS 720 or equivalent. D 21 721 1 0899

722. LOGO Implementation. (3). Course is designed to acquaint students with the philosophy of LOGO through its use in the classroom applications, develop curricular activities which stress problem solving and programming techniques. Prerequisite: IS 720 or equivalent. D 21 722 1 0899

745. Utilizing the Print Media in Classrooms. (3). Explores various ways in which the print media may be utilized to teach critical thinking skills, propaganda analysis, communication skills through word study and writing practical, and improve students' speed and comprehension practice. Special stress is placed upon the utilization of the daily newspaper as a supplement to other materials in teaching the various school subjects. Preparation of teaching materials for the school classroom is also emphasized. D 21 745 0 0803

750. Workshops in Education. (1-4). D 21 750 2 0803

751, 752, 753 or 754. Special Studies in Education. (1-3). Designed for elementary and secondary school teachers. Repeatable with advisor's consent. Prerequisite: regular certification or departmental consent. D 21 751 2 0802; D 21 752 2 0802; D 21 753 2 0802; D 21 754 2 0802

785. Instructional Media. (3). Selection, use and production of educational media. Includes instructional planning, production skills, visual literacy, slide show production, design and production of transparencies, basic photography, audio recording and mixing, video tape recording and the operation of instructional audio-visual equipment. Student assignments involve the design and production of materials for teaching. D 21 785 0 0899

795. Values Clarification Education. (3). An introduction to one approach to values education. Students develop competence with values clarification strategies, valuing techniques and the essential skills for valuing. Dealing with value-laden issues in the school curriculum is emphasized. D 21 798 0 0829

Courses for Graduate Students Only

838. Curriculum Alternatives. (3). An examination of curriculum models that are alternative to the traditional curriculum and the socioeconomic, political and psychological factors that motivate their development. Attention is given to a comparison of historical and contemporary models for the curriculum. D 21 838 0 0829

860. Seminar on Research Problems. (1-3). Development and presentation of re-
search proposals. Required of students enrolled in thesis programs. D 21 860 0 0824

862. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Reportable in a maximum total of two hours of credit. Prerequisite: IS 860. D 21 862 4 0824

875-876. Master's Thesis. (2-2). Prerequisites: IS 860, D 21 875 4 0824; D 21 876 4 0824

890. Special Problems in Education. (1-4). Directed reading and research under supervision of a graduate instructor. Prerequisite: departmental consent. D 21 890 3 0822

Instructional Services—Early Childhood

In addition to the following courses, ISEP 728, Growth and Development I, and ISEP 740, Introduction to Early Childhood Special Education: Infancy and Preschool, relate to this area. Their descriptions appear under the headings Instructional Services—Educational Psychology and Instructional Services—Special Education.

Upper-Division Course

448. Student Teaching in Early Childhood. (6). The student teaching program provides half-time participation in the preschool (three- and four-year-olds) under guidance of a master teacher and a college supervisor. Prerequisites: IS 231, ISEE 319, 321, 406, 420 and 444 and four semester hours of early childhood education. Prerequisites may be waived for equivalent experience with departmental consent. Note deadline dates for filing an application to enroll in student teaching listed under ISEE 447. Student Teaching in the Elementary School. Students must also be enrolled in ISEE 446 and IS 453. D 21 448 2 0823

Courses for Graduate/Undergraduate Credit

760. Parent Education for Preschool Teachers. (3). An introduction to ways of working with parents of preschool children and an analysis of formal and informal approaches, with emphasis on the teacher's role in developing these procedures. Prerequisite: IS 761 or instructor's consent. D 21 760 0 0823

761. Early Childhood Education. (3). An introduction to the problems and philosophy of educating children in the preschool years. D 21 761 0 0823

762. Methods and Materials in Preschool Education. (3). The study of teaching methods for the teacher of preschool children and the development of instructional units. D 21 762 0 0823

763. Teacher/Child Relations. (3). Designed to assist the student in developing the necessary skills for effective communication with children from birth to age nine. Emphasis is placed upon helping the child build a positive self-image and a positive relationship with others. D 21 763 0 0823

764. Day-Care Services. (3). Instructional methods and operational procedures for day-care center workers. D 21 764 0 0823

Course for Graduate Students Only

870. Research and Contemporary Influences in Early Childhood Education. (3). Analysis of current early childhood education research with an in-depth study of contemporary programs influencing the education of young children. D 21 870 0 0823

Instructional Services—Educational Psychology

Lower-Division Course

233. Educational Psychology: Child Development. (3). A study of educational and psychological topics as they relate to teaching the elementary school child. Prerequisites: IS 232 and formal admission into the teacher education program. D 21 233 0 0822

Upper-Division Courses

333. Educational Psychology: Adolescent Development. (3). Development during early and middle adolescent years and relation of theory and research to instruction. Prerequisites: IS 232 and formal admission into the teacher education program. D 21 333 0 0822

433. Educational Psychology: Learning and Evaluation. (3). A study of the learning process and principles related to learning in the classroom. Consideration and study are given to evaluation of the products of learning. Not open to students who have taken IS 716. Prerequisites: IS 232 and 233 or 333. D 21 433 0 0822

Courses for Graduate Students Only

800. Principles and Applications of Educational Psychology. (3). A critical examination of the major topics areas traditionally defined as educational psychology. After examination of the basic topics and strategies of the discipline, students apply them to such areas as instructional practices and design, classroom management and discipline, etc. Prerequisite: ISEP 233, 333 or 433 or instructor's consent. D 21 800 0 0822

801. Introduction to Educational Research. (3). An introduction to research in education. Included in the course content are a survey of the current educational research, the nature of research methodology, the preparation of research reports and criticism of current research. D 21 801 0 0824

811. Educational Measurement and Evaluation. (3). Issues, techniques and procedures for measurement and evaluation in the content, affective and psychomotor domains. D 21 811 0 0825

812. Social Psychology of Education. (3). A critical study of the individual in social interaction in a variety of educational settings. Application of theory and research to student-related issues and problems. D 21 812 0 0822

820. Learning Theory for Teachers. (3). Applications of several major learning theories and learning principles. Prerequisite: ISEP 801 or departmental consent. D 21 820 0 0822

832. Experimental Design in Educational Research. (3). A consideration of sampling theory, design for testing hypotheses about age five in the areas of physical, cognitive, psychosocial and moral development. Not open to students who have taken Ed. Psych. 730 (no longer offered). Prerequisite: ISEP 233 or 333 or instructor's consent. D 21 730 0 0822
Graduate Study in Reading Difficulties; A Diagnostic Practicum is required for the student teaching semester. All students working toward a degree certificate must file a request for student teaching and the student is expected to follow the public school calendar for a semester. Prerequisite: IS 231. D 21 459 2 0829

449. Student Teaching in the Elementary School–Art. (3). Prerequisites: art education major and IS 231. D 21 459 2 0829

450. Seminar in Reading Organization. (3). Designed to provide practicum experience in delivering developmental and corrective reading instruction in the classroom setting. Prerequisites: ISEE 705 and 846, or equivalent. D 21 821 2 0830

806. Introduction to Graduate Study in Elementary Education. (3). The field of elementary education is explored; its history and trends, reasons for teaching, criteria of professionalism, program requirements and options for the student pursuing a degree are delineated. D 21 806 0 0802

821. Classroom Reading Practicum. (3). Designed to provide practicum experience in delivering developmental and corrective reading instruction in the classroom setting. Prerequisites: ISEE 705 and 846 or equivalent. D 21 821 2 0830

447. Student Teaching in the Elementary School. (13). The student teaching program provides opportunities for public school students under guidance of a master teacher and a college supervisor. Prerequisites: IS 231, ISEE 319, 321, 406, 420 and 444. Students must also be enrolled in ISEE 446 and IS 453. Prerequisites may be waived for equivalent experience with departmental consent.

The student teaching semester is required of all students wishing to receive the degree certificate in elementary education. Every student wishing to receive the certificate must file an application with the coordinator of laboratory experiences. Application for the fall semester must be filed by February 15 and for spring semester by September 15. Applications may be secured in Room 107, Corbin Education Center. The only exception to the requirement of 13 semester hours is the transfer student who has taken student teaching elsewhere, or students who hold other certificates or who may have taught a number of years. Any deviations from established grade point averages and other regulations must be approved by the College of Education's Office of Admissions, Retentions and Exceptions. D 21 447 2 0829

448. Introduction to the Reading Process. (3). A study of the basic methods of teaching reading, scope and sequence of reading skills, instructional materials and the organization of learning experiences. Observation and participation in a public school may be required. Prerequisites: IS 232 and ISEP 233. D 21 420 0 0830

441. Elementary Reading Practicum. (3). A survey of the methods of teaching reading, scope and sequence of reading skills, instructional materials and the organization of learning experiences. Observation and participation in a public school may be required. Prerequisites: IS 232 and ISEP 233. D 21 420 0 0830

442. Reading in the Elementary School. (3). A survey of the methods of teaching reading, scope and sequence of reading skills, instructional materials and the organization of learning experiences. Observation and participation in a public school may be required. Prerequisites: IS 232 and ISEP 233. D 21 420 0 0830

443. Mathematics in the Elementary School. (3). A study of the basic methods of instruction, with emphasis given to relating mathematics to cognitive development and learning. Specific attention is given to current curricular practices, materials and evaluation techniques. Prerequisites: IS 232, ISEP 233 and Math 501. D 21 444 2 0833

444. Elementary Education Student Teaching Seminar. (1-3). Study and discussion of experiences emerging from student teaching, planning school programs and assuming responsibilities of a teacher. Graded C/NF. Prerequisites: ISEE 319, 321, 406, 420 and 444 and concurrent enrollment in ISEE 447 or 448 and 453. D 21 446 2 0829

802. Classroom Reading Diagnosis. (3). Designed to emphasize the understanding and use of reading survey tests, group diagnostic reading tests, criteria referenced assessment programs and appropriate teacher constructed tests. Will include the selection, administration, scoring and interpretation of group reading tests. Contains a diagnostic practicum. Prerequisite: ISEE 705. D 21 802 0 0830

806. Introduction to Graduate Study in Elementary Education. (3). The field of elementary education is explored; its history and trends, reasons for teaching, criteria of professionalism, program requirements and options for the student pursuing a degree are delineated. D 21 806 0 0802

821. Classroom Reading Practicum. (3). Designed to provide practicum experience in delivering developmental and corrective reading instruction in the classroom setting. Prerequisites: ISEE 705 and 846, or equivalent. D 21 821 2 0830

842. Remedial Reading Practicum. (3). Emphasis upon individual corrective treatment of diagnosed reading difficulties. A laboratory practicum in remedial reading instruction is required. Prerequisites: ISEE 705 and 846 or equivalent. D 21 842 0 0830

845. Elementary School Curriculum. (3). Study of the elementary school curriculum includes all of the experiences of children for which the school will assume responsibility. Excellent for teachers who want to review and apply developments during the past five years. Prerequisite: ISEE 406. D 21 845 0 0829

846. Remedial Reading Diagnosis. (3). Emphasis upon individual corrective treatment of diagnosed reading difficulties. A laboratory practicum in remedial reading instruction is required. Prerequisites: ISEE 705 or equivalent. D 21 846 2 0830

849. Seminar in Reading Organization. (3). Designed to examine the organization and administration of reading programs. Additional time is spent investigating pertinent research in the area. Prerequisite: ISEE 705 or equivalent. D 21 849 0 0830

852. Improvement of Instruction in Language Arts. (3). Recent developments in the teaching of language arts in elementary and middle school are surveyed and evaluated. Concerns, methods, materials and research related to listening and to oral, written and visual communication, including "school" writing and creative writing. Students can select particular concepts and related skills for special attention. Excellent for teachers who want to review and apply developments during the past five years. Prerequisite: ISEE 319. D 21 852 0 0829

854. Improvement of Instruction in Social Studies. (3). A study of recent changes in social studies curriculum and instruction designed to investigate strengths and limitations of various approaches. Competency in teaching for concept development, design with value-laden issues and teaching for inquiry are stressed. An inquiry-centered learning environment emphasizes personalizing social studies for children. Alternative teaching strategies and complementary evaluative techniques are reviewed and practiced. Prerequisite: ISEE 406 or equivalent. D 21 854 0 0829

856. Improvement of Instruction in Mathematics. (3). For teachers in service. Consideration of recent trends in subject matter content and teaching guides to improve un-
understanding of meanings, vocabulary and mathematical concepts. Instructional methods and materials are included. Prerequisite: ISFD 701 or instructor's consent. D 21 807 0 8081

858. Improvement of Instruction in Science. (3). For teachers in service. Designed to identify and explore the principles of science that teachers should recognize, understand and consider in their classroom teaching. (3). Prerequisite: ISFD 701 or instructor's consent. D 21 858 2 0834

859. Seminar in Elementary Education. (3). Prerequisite: ISEE 806. D 21 859 9 0802

863. Trends in Theories of Instruction. (3). Instructional theory is considered through models of teaching. Study of each model covers theoretical orientation, instructional procedures and effects. Practice of models in classroom settings is required. Prerequisite: ISEE 806. D 21 863 0 0829

Instructional Services— Foundations of Education

Lower-Division Course

234. Philosophy and History of Education. (2). A study of the major contemporary educational philosophies and the development of American education. Some emphasis is placed on the students' examination of their philosophies of education. Prerequisite: IS 232 and formal admission to the teacher education program. D 21 234 0 0821

Upper-Division Course

428. Social and Cultural Foundations of Education. (2). Attention is given to the contributions of sociology and anthropology to the understanding of the school and its position in relation to contemporary school problems. Prerequisite: IS 232 and formal admission to the teacher education program. D 21 428 0 0821

Course for Graduate/Undergraduate Credit

701. Foundations of Education. (3). A survey of the various foundations areas, including philosophical, historical, social and comparative. This course is prerequisite to subsequent foundations courses. D 21 701 0 0821

Courses for Graduate Students Only

807. Philosophy of Education. (3). An introduction to the analysis of concepts, such as mind, experience and knowledge, in their relationship to educational problems and practices and to philosophical systems. Prerequisite: ISFD 701 or instructor's consent. D 21 807 0 8081

808. Sociology of Education. (3). An exploration of the relationship between education and society. Prerequisite: ISFD 701 or instructor's consent. D 21 808 0 8081

818. Anthropology of Education. (3). A cross-cultural examination of the educational process utilizing some of the basic concepts and approaches of the social sciences. Prerequisite: ISFD 701 or instructor's consent. D 21 818 0 8081

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R/2L means two hours of lecture and two hours of lab.

Instructional Services— Library Science

Students wishing to become school librarians in Kansas must have valid teaching certificates plus specific courses in library science, which may be taken either at the upper-division or graduate level.

Courses for Graduate/Undergraduate Credit

707. School Library Media Center Cataloging and Classification. (3). The principles of cataloging and classification are studied, and students learn how to apply the Dewey Decimal classification system and Sears subject headings. Descriptive cataloging, types of entry and filing rules also are covered. D 21 707 0 1601

708. School Library Media Center Book Collection. (3). Basic resources for the development and evaluation of a school library media center collection are considered. Emphasis is placed on selection policies and procedures, the school library media specialist's responsibilities in the selection process and the development of a selection resource file. D 21 708 0 1601

710. School Library Media Center Reference Materials. (3). Resources and techniques of providing reference service in a school setting are investigated. D 21 710 0 1601

712. Current Trends in Librarianship. (3). The course covers the history and development of school librarians' roles and responsibilities. The study of library literature and current societal and educational changes that have an impact on the school library media center. D 21 712 0 1601

713. Administering the School Library Media Program. (3). The course provides a study of organizational and state standards, as well as an investigation of the school library media center role and the leadership role of the school library media specialist. Specific topics include planning and budgeting, administrative styles and personnel policies, evaluations, design and implementation of policies and procedures and strategies for an integrated program. Course is required for school library media certification majors and is not open to students who have taken ISLS 709 and 711. D 21 713 0 1601

779. Practicum/Internship. (3). (A: elementary school; B: middle school; C: high school; D: K-12.) Students pursue a professional experience in a school library media center under the supervision of an experienced practitioner in the field. Prerequisite: departmental consent. D 21 779 2 1601

780. Special Problems in the School Library Media Center. (1-3). Directed reading and research. Prerequisite: departmental consent. D 21 780 0 1601

Instructional Services— Secondary Education

Lower-Division Course

310. Methods in Physical Education. (3). Presentation and participation in methods of teaching physical education, with emphasis on techniques, skills, organization of activities and classroom procedures. Prerequisites: IS 232, PE 270 and 310A. B, C, D. D 21 310 2 0883

Upper-Division Courses

401. Secondary Reading Foundations. (3). A course designed to provide prospective secondary teachers with an understanding of the development of reading skills and to explore instructional approaches for guiding secondary students in those skills and their use in secondary content areas. Prerequisite: instructor's consent. D 21 401 0 0800

442. Special Methods in Teaching. (4). Prerequisites: IS 232 and ISEP 333

A—Field and Laboratory Methods in Biology

B—Field and Laboratory Methods in Chemistry

C—Field and Laboratory Methods in Physics

D—Field and Laboratory Methods in Mathematics

E—Field and Laboratory Methods in Social Sciences

F—The Teaching of Foreign Languages

Methods of teaching foreign languages, based on the audiolingual approach and applied linguistics contrasted with traditional methods. Laboratory techniques, transition into reading and writing and planning and evaluation of student progress are included. This course is required of all foreign language majors or minors expecting to teach in junior and senior high schools.

I—Methods of Teaching Industrial Education

Selection and arrangement of teaching content, methods of teaching, lesson planning, courses of study, testing and grading shop work, evaluating pupil progress, securing industrial education positions and professional responsibility of the shop teacher.

M—Methods of Teaching Music

S—Special Methods of Business Education

Preparation for teaching in secondary schools. Develops skills in lesson planning, methods of teaching and organizing classroom activities. Some public school classroom teaching will be incorporated into this course. Prerequisites: ISEP 433 and ISFD 234 and 428. D 21 454 2 0829

455. Advanced Methods of Secondary Teaching. (1)

A—Art (may be taken as Art Ed. 516)

D—Speech and Dramatic Art

E—English

J—Social Studies

M—Mathematics

S—Science

Preparation for teaching in secondary schools. Develops skills in lesson planning, methods of teaching and organizing classroom activities. Some public school classroom teaching will be incorporated into this course. Prerequisites: ISEP 433 and ISFD 234 and 428. D 21 454 2 0829

Student Teaching—Secondary School

The student teaching semester is required of all students working toward a secondary certificate and is a full-time assignment. Applications for approval to enroll in this program must be made to the coordinator of laboratory experiences by February 15 for the fall semester or by September 15 for the spring semester. In addition, students must obtain approval from the representative of the subject area in which they wish to student teach before placement can be considered. It is expected that students will student teach in their field of major interest. However,
individuals who are well prepared in more than one field may apply to student teach in a second field, but they must take the special methods course in the second field before entering the student teaching semester.

The assignment for student teaching begins with the opening of the public school semester, and enrollees must arrange to meet from 8 a.m. to 5 p.m. daily and to be available for selected evening programs throughout the semester.

Prerequisites: senior standing, IS 231 and 232, ISEP 333 and departmental consent.

* For specific areas see ISS 462 through 472.

462. Student Teaching-Art. (4 and 7). Prerequisite: IS 231. D 21 462 2 0829

463. Student Teaching-Biology. (7). Prerequisite: IS 231. D 21 463 2 0829

464. Student Teaching-Speech and Dramatic Art. (7). Prerequisite: IS 231. D 21 464 2 0829

465. Student Teaching-English. (7). Prerequisite: IS 231. D 21 465 2 0829

466. Student Teaching-Foreign Language. (7). Prerequisite: IS 231. D 21 466 2 0829

467. Student Teaching-Industrial Education. (7). Prerequisite: IS 231. D 21 467 2 0829

468. Student Teaching-Social Studies. (7). Prerequisite: IS 231. D 21 468 2 0829

469. Student Teaching-Music. (3). Prerequisite: IS 231. D 21 469 2 0829

470. Student Teaching-Physical Education. (7). Prerequisite: IS 231. D 21 470 2 0829

471M. Student Teaching-Mathematics. (7). Prerequisite: IS 231. D 21 471M 2 0829

471S. Student Teaching-Science. (7). Prerequisite: IS 231. D 21 471S 2 0829

472. Student Teaching-Business Education. (7). Prerequisite: IS 231. D 21 472 2 0829

Courses for Graduate/Undergraduate Credit

616. Literature for Adolescents. (3). Extensive reading of literature in all genres consistent with studies of adolescents' reading interests, abilities and responses to literature. Prerequisite: junior standing. D 21 616 2 0829

771. Teaching Reading in the Content Areas. (3). Emphasis is placed on the teaching of reading in the content areas. Prerequisite: secondary teaching experience or departmental consent. D 21 771 2 0830

Courses for Graduate Students Only

831. Evaluation Techniques in an Effective Classroom. (3). Designed to create an awareness of classroom management and evaluation systems which include a variety of evaluation and management tools and formats. D 21 831 0 0829

832. Secondary School Curriculum. (3). Develops the student's ability to describe, analyze and evaluate curriculum models and programs. Particular attention is paid to the social, psychological and philosophical foundations of curriculum as well as to current trends in curriculum design. D 21 832 0 0829

835. The Instructional Process. (3). Focuses on the process of instruction in order to develop skill in systematic instructional planning. Includes instructional theory, systems approach and other factors affecting instruction. D 21 835 0 0829

837A, B and C. The Teaching of School Subjects. (3). Recent developments in English (A), Social Studies (B), or Science (C): problems, concerns, methods, materials and research. Excellent for teachers who want an extensive review of developments during the past five years. D 21 837 0 0864

850. Seminar in Secondary Education. (3). D 21 850 9 0803

Instructional Services—Special Education

Courses for Graduate/Undergraduate Credit

601. Introduction to Exceptional Children. (3). This course is designed as a survey of the characteristics of exceptional learners, including the handicapped and the gifted. Service delivery models and current practices are presented. This course fulfills recertification requirements for teachers and serves as an introductory course for exceptional children majors, administrators and school psychologists. Prerequisite: ISEP 233 or 333. D 21 601 0 0811

602. Introduction to the Gifted. (3). Emphasis on recognition and education of the gifted child. Prerequisite: ISEP 233 or 333. D 21 602 0 0811

604. Understanding of the Mentally Retarded. (3). Current research and historical approaches to the education of the mentally retarded and survey of the literature in this field. Prerequisite: ISSP 601. D 21 604 0 0810

702. Reading for Teachers of Exceptional Children. (3). Designed to survey the developmental reading skills needed, diagnostic techniques and teaching approaches pertinent to students in special education settings, particularly LD and EMR. Prerequisite: instructor's consent. D 21 702 0 0830

740. Introduction to Early Childhood Special Education: Infancy and Preschool. (3). A basic introduction to the emerging field of early intervention for handicapped children and their families. Prerequisites: ISEP 728, ISEP 840 (or 601), ISEC 761 or permission of instructor. D 21 740 0 0820

742. Learning and Behavior Disorders. (3). A study of the incidence, classification, etiology and intellectual, personal, social and developmental characteristics of the learning disabled child. Current research, parental concerns and historical development of the educational approaches to learning and behavioral disorders are examined. Prerequisite: instructor's consent. D 21 742 0 0818

744. Curriculum Methods for the Mentally Retarded. (3). Adaptations of the standard curriculum and innovations that have proven to be beneficial for the teaching of the mentally retarded child. D 21 744 0 0810

749. The Emotionally Disturbed. (3). A study of the incidence, classification, etiology and personal, social and developmental characteristics of the emotionally disturbed. Current research, parental concerns and development of educational approaches are examined. D 21 749 0 0810

Courses for Graduate Students Only

805. Seminar in Reading and LD Teachers. (3). Designed to provide a forum for practicing reading and LD teachers in which to explore common interests, concerns, research and teaching techniques related to reading. Prerequisite: certification in reading or LD. D 21 805 9 0830

840. Psychology of Exceptional Children. (3). A study of the conceptual and theoretical formulations, empirical evidence and research concerning behavioral characteristics of exceptional children. D 21 840 0 0808

841. Program Development in Special Education. (3). Examining of factors in classroom organization and management that affect the establishment and operation of programs for exceptional children. Prerequisite: ISSP 601 or 640. D 21 841 0 0810

844. Occupational Aspects in Mental Retardation. (3). Designed to study in-depth occupational information, curriculum and methods employed by teachers of the mentally retarded in secondary schools. Prerequisite: ISSP 664 or departmental consent. D 21 844 0 0810

847E and F. Practicum and Internship in Education: Learning Disabilities. (3-6). Prerequisite: instructor's consent. D 21 847E and F 2 0808

847I and J. Practicum and Internship in Education: Mental Retardation. (3-6). Prerequisite: instructor's consent. D 21 847I and J 2 0808


847M. Practicum and Internship in Education: Gifted. (3). Supervised teaching experiences with gifted learners. Applied teaching approaches are stressed. The course provides opportunities to apply various theoretical, structural and technological methodologies related to the education of the gifted learner. Repeatable for a total of six hours. Prerequisites: instructor's consent and ISEP 662. D 21 847M 2 0808

847R, S and T. Practicum I, II and III: Supervised Clinical Experience and Seminar in Early Childhood Special Education. (2). The three practices in early childhood special education are designed to provide opportunities for the student to develop clinical competencies with handicapped infants, young children and their parents under the supervision of trained professionals in the field. Prior to every practicum experience, each student will be asked to complete a Competency Assessment basis for developing individualized professional goals for that
particular practicum experience. Students are expected to meet all such competencies to programmatic standards by the conclusion of their third practicum. Prerequisites for Practicum I: ISEP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601). 891 or permission of the instructor. It is recommended that Practicum I be taken simultaneously with (or soon after) ISEP 891. Prerequisites for Practicum II: ISEP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601). 847R, 847S, or permission of instructor. Prerequisites for Practicum III: ISEP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601), 847R, 847S, or permission of instructor. D 21 847R, S and T 2 0808

864. Practicum Seminar: Learning Disabilities. (1). A seminar designed to examine trends and issues related to the learning disabled individual, adaptation of materials for specific needs and critical examination of incidents related to the practicum experience. D 21 884 2 0808

865. Practicum Seminar: Mental Retardation. (1). A seminar designed to examine trends and issues related to the learning disabled individual, adaptation of materials for specific needs and critical examination of incidents related to the practicum experience. D 21 865 2 0808

866. Practicum Seminar: Emotional Disturbance. (1). A seminar designed to examine trends and issues related to the emotionally disturbed individual, adaptation of materials for specific needs and critical examination of incidents related to the practicum experience. Prerequisite: concurrent enrollment in ISEP 847K and L. D 21 866 2 0808

868. Methods for Teaching the Emotionally Disturbed. (3). Emphasis is on the theoretical and practical aspects of prescriptive instructional techniques and materials for the education of the emotionally disturbed in the self-contained and resource classroom. D 21 868 0 0808

883. Methods for Teaching the Gifted. (3). Planning for a qualitatively differentiated curriculum to meet the unique needs of the gifted learner is stressed. A variety of suitable program models, including grouping, acceleration, guidance and combinations of these, are explored. Prerequisite: ISEP 850 or instructor's consent. D 21 883 0 0811

885. Curriculum for the Learning Disabled. (3). Curriculum development specific to the disabled learner. Requirements include mastery of specified competencies (reading instruction, behavior management, etc.) at both the elementary and secondary level. Course may be taken in conjunction with LD Practicum. Prerequisites: ISEP 742 and 888. D 21 885 0 0808

887. Assessment and Analysis of the Learner. (3). The application of standardized and norm-referenced test techniques, including critical evaluation of standardized tests and their appropriateness for special populations, alternative methods of assessment and intervention techniques based on diagnostic profiles. D 21 887 1 0808

888. Methods for Teaching Learning and Behavior Disorders. (3). Mastery of specified competencies in teaching special students including use of data-based instruction, strategies for reading assessment, techniques to improve reading, math and written language skills and strategies for working with other teachers to facilitate mainstreaming of special students. D 21 888 1 0818

Military Science

Army Reserve Officers' Training Corps (ROTC)

Army ROTC is a program which offers college students the opportunity to graduate as commissioned officers and serve in the U.S. Army, the Army National Guard, or the U.S. Army Reserve. Participation in ROTC enhances a student's education by providing unique leadership and management training along with practical experience. Students are provided with a valuable opportunity to build for the future by enabling them to earn a college degree and an officer's commission at the same time.

ROTC is not a major or minor. Courses are taken along with normal studies, usually at the rate of one ROTC course per semester. The ROTC program consists of the four-year program and the two-year program.

Four-Year Program

The four-year Army ROTC program is divided into two parts called the Basic Course and the Advanced Course.

Basic Course

The Basic Course, designated as Military Science (MS I and MS II), is designed to provide the student with a general overview of basic military skills, leadership and management techniques, and the mission and organization of the U.S. Army. The course will focus on the junior officer's role as a leader and manager and provide the student with time management, decision making, and organization skills. The Basic Course is normally taken during the freshman and sophomore years, but it is open to full-time students anytime during their college career. MS I and MS II students participate in classroom work one class period per week plus a leadership lab which provides hands-on experience in Army skills. The Basic Course also provides the student with a variety of outside social and professional enrichment activities. All necessary course textbooks and other materials are furnished at no cost. No military service obligation is incurred by nonscholarship students enrolled in the Basic Course. Students earn up to eight hours of academic credit and are provided the opportunity to find out what ROTC is all about.

Advanced Course

Students who have demonstrated the potential for becoming an effective leader and have the desire to become a commissioned officer in the U.S. Army may enroll in the Advanced Course if they meet the following eligibility requirements. To be eligible for the Advanced Course a student must:

1. satisfy the Basic Course requirement;
2. be of good character;
3. be at least 17 years old but no older than 30 at time of commissioning (25 if on a ROTC scholarship);
4. meet physical standards;
5. be enrolled as a full-time student;
6. have at least two full years of academic work remaining; and
7. be selected by the professor of Military Science.

A student enters the Advanced Course as a MS III and signs a contract agreeing to serve as a commissioned officer once he or she completes the required two years of classes (MS III and MS IV) and attends a 6-week summer camp. The summer camp is normally attended between the MS III and MS IV
years. During the Advanced Course, all students receive a $100 tax-free allowance for each school month, plus a travel allowance and approximately $600 while attending the six-week summer camp.

The MS III year emphasizes principles of leadership and the decision-making process. In addition, the MS III student is prepared to attend the ROTC Advanced Camp through advanced instruction in military skills, tactics, and physical training.

In the MS IV year, students are placed in various leadership positions forming the chain of command of the cadet corps. MS IVs plan and organize all cadet activities and are involved in instruction of underclassmen.

Upon completion of the MS IV year, students are commissioned as second lieutenants and have the option of serving on active duty, or in the Army Reserves or Army National Guard while pursuing civilian careers.

Two-Year Program
Although designed basically for transfer students from junior colleges and colleges and universities not offering ROTC, the two-year program enables students who have four semesters of school remaining before qualifying for a degree to enroll in a basic six-week summer camp between their sophomore and junior years. This camp is designed to educate students in the basic military skills they would have acquired during their first two years of the four-year program. Beginning with the junior year, the two-year program students complete the same advanced course as the four-year program students.

Professional Military Education
All students seeking an officer's commission must complete at least one undergraduate course from each of three designated fields of study. Students must take a course in written communication, military history and human behavior, and are encouraged to take a course in national security affairs and management.

Scholarship Opportunities
Army ROTC scholarships are offered on a competitive basis for two-, three-, and four-year periods. The scholarship pays tuition, fees, a stipend amount for textbooks, supplies, and equipment; and also includes a tax-free allowance of up to $1,000 for every year the scholarship is in effect. Army National Guard scholarships, which pay for tuition are also available. Information on ROTC scholarships may be obtained from the Military Science Department.

Nursing Students
Students pursuing a degree in nursing can take Army ROTC along with other students and begin their professional careers as an Army Nurse Corps officer. Nursing students in the ROTC Advanced Course attend the Nurses Summer Training Program, a six-week clinical program where each student is paired with a working Army nurse who functions as a preceptor. This one-on-one teaching relationship, combined with the hands-on principle of learning by doing, makes this program unique.

Veterans
Veterans may apply their military experience as credit toward the Basic Course. If credit is granted, a veteran may omit the MS I and MS II years and enroll in the Advanced Course. Academic alignment is required, however, except in unusual situations.

Army National Guard and Reserve Students
Basic Course students who are members of the Army National Guard or the Army Reserve may enroll in the Army ROTC program and be a member of their unit at the same time. Advanced Course students may also serve as a member of a Guard or Reserve unit under the Simultaneous Membership Program. Students in this category serve as officer trainees in their unit and will receive pay at the E-5 pay grade. At the same time, the student will continue to receive the $100 per school month tax-free allowance from ROTC.

Open Enrollment Policy
Any full-time student at The Wichita State University may audit courses taught by the Department of Military Science if approved by the registrar and professor of military science. Students enrolling under this category may not receive commissioning credit or the monetary allowance.

Lower-Division Courses
113. Today's Army. (2). 1R; 1/2L. An introduction to the mission and organization of the modern army, customs and traditions, the junior officer's role as a leader and manager, and the benefits and challenges afforded to officers in the U.S. Army. D 15 113 5 1801

114. Learning to Lead. (2). 1R; 1/2L. An introduction to leadership roles, styles, traits and management functions as they apply to both civilian and military organizations. The course teaches time management and decision-making skills and discusses the traits of an effective leader. D 15 114 5 1801

200. ROTC Basic Camp. (4). A six-week training period of classes and field work. Subjects include organization of U.S. Army, marksmanship, map reading, tactics and operations. Practical experience in leadership is stressed. Course prepares students for ROTC advanced program. Prerequisite: departmental consent. D 15 200 5 1801

223. Land Navigation and Tactics. (2). 1R; 1/2L. A course designed to provide the student with basic land navigation skills. Subjects covered include land navigation using a compass, map and terrain association. Fundamentals of small unit tactics are also included. D 15 223 5 1801

224. Basic Military Skills. (2). 1R; 1/2L. The practical application of common individual military skills, such as tactical radio communications, first aid and physical conditioning. D 15 224 5 1801

Upper-Division Courses
333. Advanced Leadership Development. (3). 2R; 1/2L. A military approach to leadership training. Decision making at the small unit level, problem solving within the military framework and functions and responsibilities of military leaders. Prerequisites: completion of all lower-division courses or service credit and departmental consent. D 15 333 5 1801

334. Advanced Military Tactics. (3). 2R; 1/2L. Organization and capabilities of military units and advanced military tactics; existing communication systems and their use in tactical situations. Prerequisites: MS 333 and departmental consent. D 15 334 5 1804

400. ROTC Advanced Camp. (4). A six-week training period of classes and field work. Subjects include signal communications, land navigation, tactics, weapons, Leadership Reaction Course and field problems test. The course provides leadership opportunities in the form of problem analysis, decision making and management experiences. Prerequisites: MS 333 and 334 and departmental consent. D 15 400 5 1801

443. Military Administration and Training. (3). 3R; 1L. Organization and capabilities of military units and advanced military tactics; existing communication systems and their use in tactical situations. Prerequisites: MS 333 and departmental consent. D 15 443 5 1801

444. Seminar in Leadership and Management. (3). 2R; 2L. Orientation to staff operations and procedures, ethical and professional behaviors expected of commissioned officers, the military personnel management system, installation level support, and the relationship between commissioned and non commissioned officers. Prerequisites: MS 443 and departmental consent. D 15 444 5 1801

Music Education
Mus. Ed. 351, 352, 501, 606, 610, 611 and 706 are specifically available for students in the College of Education Service Courses in special music education also are available. The full description of courses offered in music education is given in the College of Fine Arts, School of Music section.
Personnel Services

Counseling and School Psychology

Lower Division Courses

150. Workshops in Education. (1-2). D 18 150 2 0826

152. Special Studies in Education. (1-4). This course is designed for undergraduates with an interest in issues related to counseling, guidance and student development. Different preselected areas may be emphasized during a semester. Repeatable with advisor's consent. D 18 152 2 0826

Upper-Division Courses

450. Workshops in Education. (1-4). This course is designed to accommodate a variety of topics related to counseling, guidance and communication issues in helping relationships. Different preselected topics may be emphasized during a semester. Repeatable for credit. D 18 450 2 0826

452. Special Studies in Education. (1-4). This course is designed for upper-division students with an interest in issues related to counseling, guidance and student development. Different preselected areas may be emphasized during a semester. Repeatable with advisor's consent. D 18 452 2 0826

455. Family Crucible. (3). An exploration of issues involved in understanding marriage and family life with an experiential and interdisciplinary focus utilizing developmental, cultural, and family systems perspectives. The course will provide opportunities to examine personal values, experiences and expectations in connection with the personal growth dimensions of family life. Prerequisite: upper-division standing. D 18 455 0 0826

Courses for Graduate/Undergraduate Credit

652. Student Development. (3). Training for students involved as small-group leaders. Prerequisite: DARE student leader. D 18 652 9 0826

653. Studies in Student Development. (1-2). Designed as a supervised experience for students majoring as peer counselors and leaders in developing activities for students entering or assigned to University College. Peer counseling and counseling skills are emphasized. Prerequisite: CSP 632 (former 752H) and DARE student leader. D 18 653 2 0826

655. Studies in Student Services. (1-6). Provides students with training in basic helping skills for paraprofessional counseling. The course involves training and periodic seminars. May be repeated for a maximum of six hours credit. Prerequisite: departmental consent. D 18 655 9 0826

732. Counseling: Child Abuse and Neglect. (2). The etiology, symptoms and indicators, treatment and prevention issues of physical abuse, neglect, emotional abuse and neglect, and sexual abuse. D 18 732 2 0826

750. Workshop in Education. (1-4). D 18 750 2 0826

752. Special Studies in Education. (1-5). The course is designed for students with personnel and guidance interests. Different preselected areas may be emphasized during a semester. Repeatable with advisor's consent. Prerequisite: instructor's consent. D 18 752 2 0826

756. Guidance Services for the Preschool Child. (3). A study of the social and emotional needs of the preschool child, including an exploration of theory, techniques and materials useful to persons providing guidance services for preschool children and their significant adults. D 18 756 0 0826

Courses for Graduate Students Only

801. Principles and Philosophy of Guidance. (3). The development of a guidance philosophy, including a study of the helping relationship and the services that are part of school, agency and other institutional settings. D 18 801 0 0826

802. Introduction to Interaction Process. (1-2). A laboratory approach to an understanding of the counselor's role in the counseling process. The course is designed to help the prospective counselor increase personal understanding of self as a variable in the counseling process. Prerequisites: CSP majors and instructor's consent. To be taken concurrently with CSP 801. This course may not be taken concurrently with CSP 825. D 18 802 2 0826

803. Counseling Theory. (3). A study of selected theories of counseling. Prerequisite: CSP 801 or concurrent enrollment. D 18 803 0 0826

805. Educating the Poorly Adjusted Individual. (3). Perceptual approach to the problems of emotionally disturbed or delinquent children and youth in both elementary and secondary schools. D 18 805 0 0816

806. Children of Poverty. (3). A perceptual approach to children and youth whose adjustment problems appear to be related to poverty in the affluent society. D 18 806 0 0813

810. Elementary School Counseling. (3). The role of the elementary counselor in providing individual and group counseling, guidance and consultation in the school setting. Prerequisite: CSP 824. D 18 810 0 0826

820. Occupational Information. (2). The classification, collection, evaluation and use of informational materials in a guidance program. Also studies current occupational trends and developments and theories of occupational choice. Prerequisite: CSP 801 or concurrent enrollment. D 18 820 2 0826

823. Psychometric Procedures in Counseling. (3). Study and survey of standardized tests and their application in counseling, with an emphasis on their selection, use and interpretation. Study is made of the basic concepts pertaining to the interpretation of psychological and inventories, including basic measurement theory and the factors involved in the selection of tests. Prerequisites: CSP 801. IS 801 or concurrent enrollment. D 18 823 2 0826

824. Techniques of Counseling. (3). Through simulated counseling situations and extensive examination of counseling case studies, techniques of counseling are examined and practiced. Prerequisite: CSP 803. D 18 824 0 0826

825. Group Techniques in Guidance. (2). SU grade only. Laboratory approach to the study of group formation, process and communication as a tool for guidance services. Prerequisite: CSP 801 or concurrent enrollment. D 18 825 2 0826

830. Introduction to Marriage and Family Counseling. (3). A survey course on marriage and family counseling including theory, techniques and research in the field. Prerequisite: CSP 803 or departmental consent. D 18 830 0 0826

833. Administration of Guidance Services. (3). Administration theory, with emphasis for the CSP major on relating theory to the problem of administration of guidance services. Prerequisite: 15 hours of CSP courses. D 18 833 0 0826

852. Special Studies. (1-4). A course covering specific topics identified by the department in consultation with institutions or groups of graduate students. Course procedures vary according to topic. Repeatable with advisor's consent. D 18 852 2 0826

855. Individual Intelligence Assessment. (2). Use of individual tests for appraisal of intelligence, adaptive behavior and learning styles. Research and clinical theory are considered in a lecture-discussion format, which includes some case simulation activities. Concurrent enrollment in CSP 870 is recommended. Prerequisites: CSP 823 or concurrent enrollment and instructor's consent. D 18 855 0 0825

856. Practicum in Individual Counseling. (3). Supervised practice in individual counseling. Course requirements include at least 60 hours applied experience. Repeatable for credit. Prerequisite: CSP 824, admission to the CSP program and instructor's consent. D 18 856 2 0826

857. Professional and Ethical Issues. (2). Study of major ethical, legal and professional issues in counseling and school psychology. Prerequisites: 15 hours in CSP sequence. D 18 857 9 0826

858. Diagnostic Testing. (2). Use of individual tests, rating procedures and behavioral techniques for the appraisal of perceptual and functional skills, interpersonal, and academic skills. Assessment theory and research relevant to these areas are considered in a lecture-discussion format, which includes some case simulation activities. Concurrent enrollment in CSP 870 is recommended. Prerequisites: CSP 823 and instructor's consent. D 18 858 2 0825

862. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Repeatable for a maximum of two hours of credit. Prerequisite: IS 860. D 18 862 4 0826

866. Practicum in Guidance Services. (2-3). Supervised practice in administration, test interpretation, group counseling and other activities of the guidance department. Prerequisites: CSP 801 and instructor's consent. D 18 866 2 0826

867. Practicum in Group Guidance and Counseling Methods. (3). Supervised practi­ce in group guidance and counseling. Repeatable for three hours of additional credit. The second practicum must be in a different area or have a different focus from that of the
Seminars in Psychology, (1). Current trends and issues within the area of school psychology will be examined. Alternative role models for the school psychologist will also be considered from the standpoint of research and program development in related areas such as special education, general education, and professional psychology. Repeatable to a maximum of four hours. Prerequisites: CSP 801 or concurrent enrollment. D 18 861 0 9 0826

980. Special Problems in Guidance. (1-4). Directed reading and research under the supervision of an instructor. Prerequisite: departmental consent. D 18 890 3 0 0826

903. Counseling Theory I. (3). In-depth critical review of research and application of major theories to the evaluation and design of interpersonal intervention strategy. D 18 903 0 0826

914. Consultation Techniques. (3). Intensive study of the literature in counseling, social psychology, and administration that provides a basis for consultation techniques in the interpersonal context of school and work settings. D 18 914 0 0826

915. Intervention Design. (2). Designed to give the student further experience and skill in utilizing theories of interpersonal relations in creating macro- and micro-level intervention designs for individuals or groups experiencing dysfunctional situations. Individual and organizational effectiveness assessment skills are stressed. D 18 915 0 0826

926. Seminar: Selected Topics. (2). Intensive study of current issues, techniques, research, and application of the selected topic. Repeatable for different topics for a maximum of eight hours. Prerequisite: 15 hours of related graduate course work. D 18 926 9 0826

928. Seminar: Postsecondary Student Services. (2). Intensive study of issues, theories, approaches and research in topics related to postsecondary student services. Repeatable for different topics for a maximum of eight hours. D 18 928 9 0826

930. Marriage and Family Counseling I. (3). An advanced course on marriage and family counseling, including theory, techniques and research. Prerequisite: CSP 803, CSP 830, 30 graduate hours or permission of instructor. D 18 930 0 0826

934. Personality Assessment. (2). Focus is on theory and interpretation of instruments representing three major approaches to personality assessment: projective techniques, behavioral techniques and personality inventories. Alternative personality assessment approaches and reviews of personality theory and psychopathology are included. Prerequisites: CSP 823, post-master's standing or last six hours of master's program. D 18 934 0 0825

946. Practicum in School Psychology. (3 or 6). Supervised practice in providing school psychological services to children in school, clinical or community agency settings. Requires at least 300 hours applied experience per three hours of credit. Repeatable for a maximum of six hours credit. Prerequisites: CSP 823 and concurrent enrollment in an appropriate lecture-discussion course. D 18 946 2 0826

947. Internship: Internal or External. (6-9). The internships is normally a full-time placement, appropriate to career objectives, in a position within an agency, institution or school. The external internship is a series of planned placement intervention experiences in a variety of settings designed to develop expertise in interpersonal consulting. 24 units. D 18 947 2 0826

948. Practicum in Marriage and Family Counseling. (3). Prerequisite: CSP 930, graduate student status or consent or consent of instructor. D 18 948 2 0826

970. Assessment Practicum. (2). Supervised experience in the administration, scoring and interpretation of individual assessment techniques. Emphasis on integrating assessment intervention in several sources. Report writing and case consultation also are considered in terms of the information needs of the client and referral agent. Repeatable to a maximum of four hours. Prerequisites: CSP 823 and concurrent enrollment in an appropriate lecture-discussion assessment course at the post-master's level. D 18 970 2 0826

977. Internship in School Psychology. (2). Supervised experience as a school psychologist in a school or agency setting. Requires at least 500 hours of applied experience. Repeatable for a maximum of four hours. Prerequisites: CSP 946 and departmental consent. D 18 977 2 0826

990. Special Problems in Counseling and School Psychology. (1-4). Directed problems in research for specialist degree student under supervision of a graduate instructor. Prerequisites: ISEP 801 and instructor's consent. D 18 990 4 0826

Educational Administration and Supervision

Courses for Graduate/Undergraduate Credit

750. Experienced Administrator's Workshop. (1-2). Offers a variety of administrative topics. D 18 750 2 0827

752. Special Studies in Educational Administration and Supervision. (1-3). Group study in a preselected specialized area of educational administration and supervision. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 18 752 0 0827

Courses for Graduate Students Only

801. Educational Administration Theory. (3). An examination of the major theories of administration and application to specific problems. Emphasis is placed on an overview of the administration of the school district, especially problems involving the community and staff. Included is data gathering for self-evaluation of supervisory potential. Open to all College of Education graduate majors. D 18 801 0 0827

804. Supervision and the Improvement of Instruction. (3). The application of curricular theories, teaching methodologies, and techniques of supervision to the problems of improving classroom instruction and teaching methods. D 18 804 0 0827

810. The Principalship. (3). Designed primarily for principals who are completing a master's program in educational administration and supervision. Course content focuses on the role expectations of building principals at the elementary, middle and high school levels. Includes specific work with each student's major project level. Prerequisite: EAS 801. D 18 810 0 0827

814. Instructional Management: Hunter Model. (3). Development of the skills required to assess and assist teachers in improving classroom instruction. A review of effective teaching practices using the model developed by Madeline Hunter and associates. Emphasis is on upgrading supervisory proficiency through the direct observation of teaching episodes using assessment, analysis and scripting techniques. Supervisor conferencing and coaching skills also are stressed to improve teacher time utilization, supervisory evaluation and productivity. Prerequisite: EAS 804 or instructor's consent. D 18 814 0 0828

826. Curriculum Management. (3). A study of curriculum philosophies, theories and developmental processes. Included are the following topics: examination of recent programs and proposals, curriculum development at the building and school system levels and techniques of program evaluation. Prerequisite: EAS 904. D 18 826 0 0828

828. Management and Evaluation of Alternative Programs. (3). A study of the management and evaluation of alternative programs appropriate to continuous learning, nongradeness, individualized instruction, flexible scheduling, team teaching, large group instruction, independent study and other current trends in education. Includes evaluation of children's learning progress and evaluation of and accountability for school administrators, superintendents and teachers. Prerequisite: graduate standing. D 18 828 0 0827

836. School Personnel Management. (3). Advanced study of staff problems—selection and recruitment, certification, orientation, in-service training, evaluation, transfer and dismissal and retirement. Prerequisite: master's degree or instructor's consent. D 18 836 0 0827

842. School Law. (3). General concepts of law, interpretation of statutes and court decisions affecting education and legal responsibilities of school personnel. D 18 842 0 0827

852. Special Studies in Educational Administration and Supervision. (1-3). Group study in a preselected specialized area of educational administration and supervision. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 18 852 0 0827

853. School Business Management. (3). School budgeting processes, accounting, risk management, purchasing and data management procedures. Management of current maintenance and transportation services. Prerequisite: EAS 801 and 804 or instructor's consent. D 18 853 0 0827

860. Research Seminar in Educational Administration and Supervision. (3). De-
signed primarily for students in advanced study with a research orientation. Course content and emphasis are varied according to the needs of students as research proposals and studies are developed, conducted and examined. Prerequisite: completion of master's degree or adviser's consent. D 16 860 9 0824

862. Presentation of Research. (1-2). A project-submission with manuscript form. Repeatable for a maximum two hours of credit. Prerequisite: EAS 860. D 16 862 4 0827

871. Group Process for Administrators and Supervisors. (3). A laboratory-based course in which the various aspects of group process are developed specifically for elementary and secondary school administrators and supervisors. The student must file an internship experience for potential and practicing administrators and supervisors. Prerequisite: EAS 804. D 16 904 0 0827

872. Conflict Management. (3). This course is designed to study the effects of conflict, attitudes, beliefs, and interpersonal communications, which lead to the types and sources of organizational role and personality conflict. Approaches to interpersonal and organizational conflict will be emphasized. D 16 872 0 0828

875-876. Master's Thesis. (2-2). D 16 875 4 0827; D 16 876 4 0827

878. Strategies for School Improvement. (3). An examination of organizational-instructional-characteristics of schools as determinants of their effectiveness (i.e., pupil academic achievement). Various school improvement models are considered, including program standards developed specifically for elementary and secondary schools. Research studies considered examine established correlates for school effectiveness, as well as related teacher effectiveness variables. Prerequisites: EAS 801 and 804. D 16 878 0 0827

884. School Plant Design and Operation. (3). Planning new educational facilities based upon educational programs. The evaluation of existing schools, remodeling and operation and maintenance of present school plant included. Prerequisite: instructor's degree or instructor's consent. D 16 884 0 0827

886. Data Management for School Administrators. (3). An advanced course for microcomputer literate students in extending administrative data processing skills and concepts of management information systems. Hands-on experience in machine language programming, data base management, word processing and spreadsheet programs, using Apple computers. D 16 886 0 0827

890. Special Problems in Administration. (1-4). Directed problems in research for master's students primarily under supervision of a graduate instructor. Prerequisite: instructor's consent. D 16 890 3 0827

891. Preservice Building Administrator Practicum. (3). The practicum is designed as an alternative service for preparing building-level administrator certification in Kansas. Emphasis is on the acquisition of knowledge and skill in administrative practices through a building-level field experience. The student must file an application for the practicum, approved by the supervising EAS faculty member, the cooperating building principal, and the school district coordinator. Prerequisite: EAS 810 or equivalency or concurrent enrollment. D 16 891 0 0827

904. Clinical Supervision for Administrators/Supervisors. (3). An examination of theories of clinical supervision and their application by administrators in the supervisory process. Emphasis is on improving learning experiences for students by facilitating improvement or alternative instructional solutions to students, classroom and school-level administrative problems. Prerequisite: EAS 804. D 16 904 0 0827

909. Planning in Educational Administration. (3). Seeking out, analyzing and making appropriate use of information in effective school planning. Examines systems analysis, management information systems in school settings and strategies for long- and short-range planning. Prerequisites: EAS 801 and 804. D 16 909 0 0827

946, 947, 948, 949. The Internship. (2, 3, 4, 5). Administrative assignment in educational institutions. S/U grading only. Prerequisites: nine semester hours of post-master's graduate courses in educational administration and supervision and 3.100 graduate grade point average. Arranged on an individual basis. D 16 946 0 0827; D 16 948 2 0827; D 16 948 2 0827; D 16 949 2 0827

953. Financial Support of Education. (3). An examination of the financial support of education at local, state and national levels. Emphasis is on methods of taxation, budget preparation and efficient expenditures. Prerequisite: EAS 801 and 804 or instructor's consent. D 16 953 0 0827

955. Field Project in Administration and Supervision. (2-4). Field projects are planned to meet a legitimate need in an educational setting in which the student, under professional guidance, can become directly involved. The project may fulfill a community need, a departmental need or a need for investigation or inquiry. Acceptable projects are developmental or may include an internship. A useful, well-documented report of the project is required, with the plan, format and style approved by the student's committee. Prerequisite: completion of master's degree. D 16 955 2 0827

960. Seminar in the Process of Administration. (1-3). Concurrent enrollment in the internship is required. S/U grading only. Arranged on an individual basis. D 16 960 9 0827

963. Politics and Power in Education. (3). An examination of the interaction of society and the school as it relates to the administrative processes. Systems of control, social class, power structure, human relations and group dynamics are studied. D 16 963 0 0827

965. School and Community. (3). A study of the relationships between a school and its community and the administrative responses that show promise of improving relationships between school and community. D 16 965 0 0827

991. Practicum in Educational Administration and Supervision. (1-2). This course is designed for persons who have been employed in their first administrative position and who are seeking recertification in Kansas. The course of study is individually designed by an EAS faculty member with the student and his/her school district supervisor. This course addresses the needs of the student and of the district. The thrust is to assist the student to extend basic skills relevant to a particular administrative assignment. The student must register for three hours of credit in EAS 991 to meet recertification requirements. S/U grading only. Prerequisites: completion of master's degree and departmental consent. D 16 991 2 0827

Physical Education, Health and Recreation

Physical Education

Physical education majors may select the elementary, secondary or field option specialization. They may select both the elementary and secondary specializations by completing the required hours in both specializations and by student teaching in both areas. Students majoring in physical education must meet all College of Education entrance requirements.

Core requirements. Each major student in the elementary or secondary specialization must complete 35 hours in the physical education core, which includes PE 201A, 201B, 201C, 201D, 105, 107, 111, 117, 229, 270, 328, 360, 530, 533 and 544.

Elementary Specialization. All majors in this specialization must complete the core requirements listed above. Fifteen additional hours must be completed by taking the following courses: PE 200, 325, 326, 327, 515 and IT 170.

Secondary Specialization. All majors in this specialization must complete the core requirements listed above. Fifteen additional hours must be completed by taking the following courses: PE 206, 254, 311, 312, 331 and two hours within the area of rhythmic activities (PE 515, aerobics, ballroom dance or folk dance of many countries). Individuals in this program must compile a grade point average of 2.500 for all hours taken and in the major field before being admitted to the student teaching block.

Field Option Specialization. Candidates may select one of the approved options: fitness or sport business management. Individuals in this program must compile a grade point average of 2.500 for all hours taken and in their major area before being admitted to the field option internship.

Fitness: Required courses are PE 105, 106, 107, 111, 115, 117, 229,
270, 328, 331, 360, 481, 530, 533, 544, 547, HS 331, plus at least 29 hours of approved electives.

Sport Business Management. Required courses are PE 111, 117, 210, 229, 280G, 328, 360, 481, 530, 533, 544 and 547, plus at least 31 hours of approved electives.

Recreation

The recreation program in the Department of Health, Physical Education and Recreation prepares students for positions in the management of leisure services. Specialization in therapeutic recreation and park and community are offered at the undergraduate level. The recreation program builds its curriculum on a broad general education foundation, offers professional and skills courses, and draws from many related departments of the University for competences and skills in the preparation of leaders for the recreation profession. The curriculum emphasizes the practical, as well as the theoretical, aspects of recreation by offering supervised co-op experience and internships in various recreational settings throughout Kansas and the nation.

Students majoring in recreation should meet all College of Education entrance requirements and fulfill the following program requirements:
1. 28 hours of professional core courses.
2. 32 hours of professional courses in at least one area of specialization, and
3. Work closely with the department advisers in selecting electives for their chosen areas of specialization.

Individuals in this program must compile a grade point average of 2.500 for all hours taken and in their major area before being admitted to the recreation internship.

Areas of Certification

State certification—Drivers' Education. (18 hours.) Required are Psych. 111 and PE 210, 300 and 301. Electives consist of six semester hours in the following areas: visual education, auto mechanics, sociology or courses dealing with human relations, such as American democracy, law enforcement, traffic problems, motorcycle safety or court procedures.

State certification—Health. The courses listed must be included in any program which provides state certification endorsement in health; PE 115, Personal and Community Health (3); PE 117, First Aid (2); PE 210, Safety Education (3); PE 229, Applied Human Anatomy (3); PE 280G, Fitness for Life (2); PE 500, Health Education (2-3); PE 502, Applied Health I (2); PE 504, Applied Health II (2); PE 530, Physiology of Exercise (3); PE 752, Special Studies in Health, Physical Education and Recreation (1-3); Biol. 120Q, Introduction to Microbiology (4); Chem. 111Q, General Chemistry (5); HS 331Q, Principles of Dietetics and Nutrition (3); Psych. 111Q, General Psychology (3); Soc. 111Q, Introduction to Sociology (3); ISSE 310, Methods of Physical Education (3); ISSE 470, Student Teaching—Physical Education (3).

The Wichita State University certification—Coaching. The courses listed must be included in any program which provides Wichita State certification in coaching: PE 220, Officiating Techniques (3); PE 331, Athletic Injuries (2); PE 336, Theory and Organization of Basketball (2); PE 337, Theory and Organization of Track and Field (2); PE 530, Physiology of Exercise (3); PE 770, Psychology of Sport (3). Men must add PE 345, Theory and Organization of Football (2).

All students must have at least three hours from the following electives—PE 206, Aquatics (2); PE 254, Gymnastics (3); PE 311, Methods and Techniques I (3); PE 312, Methods and Techniques II (3).

All students also must have at least four hours from the following: PE 201A, PE 201B, PE 201C, PE 201D, Introduction to Activities (2 hours each).

Service Program

Physical education activity courses carry one hour of credit. They fall into nine areas.

Lower-Division Courses

Physical Education Activity Courses.

101. Team Activities. (1). D 13 101 5 0835
102. Individual Activities. (1). D 13 102 5 0835
103. Combatives. (1). D 13 103 5 0835
104. Gymnastics. (1). D 13 104 5 0835
105. Fitness Activities. (1). D 13 105 5 0835
106. Aquatics. (1). D 13 106 5 0835
107. Combined Activities. (1). D 13 107 5 0835
108. Varsity Activities. (1). D 13 110 5 0835

Professional Courses

Professional courses for physical education, health and recreation are offered in the College of Education and, unless otherwise indicated, are open to both men and women.

Lower-Division Courses

111. Introduction to Physical Education. (2). A survey study of health, physical education and recreation as to their identification, purpose and interrelationship in the total field of education. D 13 111 0 0835
112. Introduction to Recreation and Leisure. (3). An introduction to the professional field of recreation. A study of the historical, philosophical, sociological, psychological and economic development of leisure and recreation. Insights into fundamental concepts, values and functions of leisure and recreation are provided the student. D 13 112 0 0835
115. Personal and Community Health. (3). Introductory course to study the multiple dimensions of health and disease, lifestyle, aging, death and dying. Responsibilities for one's health is fostered through the use of wellness inventories, lifestyle assessments, nutritional analyses and goal-setting. D 13 115 0 0837
117. First Aid. (2). Standard and/or advanced first aid with certification by the American Red Cross. D 13 117 0 0837
126. Introduction to Therapeutic Recreation. (3). Introduces students to the field of therapeutic recreation. Content areas include history, philosophy, perspectives and concepts, characteristics of populations, types and locations of services and roles and functions of therapeutic recreation professional. Prerequisite: PER 112. D 13 126 0 0835
200. Observation in Physical Education. (1). A course that provides students with observation experiences in selected elementary schools. D 13 200 1 0835
201A. Introduction to Activities. (2). This course introduces the major student to the basic skills of badminton, tennis, flag football and fencing. D 13 201A 5 0835
201B. Introduction to Activities. (2). This course introduces the major student to the basic skills of golf, bowling, archery and combatives. D 13 201B 5 0835
201C. Introduction to Activities. (2). This course introduces the major student to the basic skills of softball, volleyball, basketball, racquetball and table tennis. D 13 201C 5 0835
201D. Introduction to Activities. (2). This course introduces the major student to the basic skills of soccer, basketball and fitness activities. D 13 201D 5 0835
201E. Introduction to Physical Activities. (2). An introduction to activities appropriate for fitness/wellness programs. Prerequisite: departmental major or departmental consent. D 13 201E 5 0835
206. Aquatics. (2). 1R; 2L. An introduction to aquatic techniques and an orientation to all levels of aquatics that enable individuals to manage themselves adequately and satisfactorily in water. Prerequisite: PE 107A or departmental consent. D 13 206 0 0835
210. Safety Education. (3). A general survey of the field of safety. Emphasis is on the philosophical implications, psychological consequences, social conditions, and safety program development. Culminates with the different areas of safety concern being analyzed in terms of need, development, and trends. D 13 210 0 0836


226. Program Design and Leadership Methods. (3). Introduces the concept of program leadership and recreation planning, preparedness, supervision, and supervision as a foundation for future recreation skills and professional courses. Prerequisite: PER 112. D 13 226 0 0835

227. Recreation for the Aged. (3). Characteristics of the aged, role of therapeutic recreation with the aged in institutional and community settings. Prerequisite: PER 112. D 13 227 0 0835

229. Applied Human Anatomy. (3). 3R. 1L. A study of the structure and function of the skeletal and muscular systems of the human body, with direct application to body movements in physical activities. D 13 229 1 0835

254. Gymnastics. (3). Principles of body mechanics and application to gymnastics, including free exercise and apparatus. Prerequisite: PE 105A or departmental consent. D 13 254 2 0835

270. Motor Learning. (3). The introduction and examination of the physiological and psychological factors that affect the acquisition of motor skills. D 13 270 1 0835

280G. Fitness for Life. (2). 1R. 2L. The whys and hows behind activities designed to develop and maintain the muscular and cardio-respiratory systems of the human body. Two days per week are spent in a laboratory situation to assess fitness components and participate in an individually designed fitness program. One day per week involves a lecture to enhance understanding of exercise, weight control, cardiovascular disease and fitness parameters. D 13 280G 1 0835

Upper-Division Courses

300. Basic Driver Education and Training I. (3). D 13 300 0 0836

301. Advanced Driver Training II. (3). D 13 301 2 0836

302. Recreation for Special Populations. (3). Designed to increase sensitivity to recreational needs of handicapped or other special groups. Cultural and personal attitudes will be explored. Physiological, psychological and social characteristics are discussed. Implications for providing recreation services are emphasized (including leadership, supervision, and program design). Prerequisites: PER 112, 126, 226, 481(D). D 13 302 0 0835

311. Methods and Techniques I. (3). Emphasis upon methods, techniques, teaching progression, analysis and skill development. Activities covered include basketball, tennis, flag football, track, field, bowling, and combatives. Prerequisites: PE 201A, PE 270, ISSE 310, PE 201A or departmental consent. D 13 311 1 0835

312. Methods and Techniques II. (3). Emphasis upon methods, techniques, teaching progression, analysis and skill development. Activities covered include basketball, volleyball, handball, racquetball, table tennis, soccer, basketball and fitness activities. Prerequisites: PE 201C, PE 201D, PE 270, ISSE 310 or departmental consent. D 13 312 1 0835

325. Preschool Physical Education. (3). 3R. 2L. The first of a three-course series designed for an emphasis in elementary school physical education. The course content focuses on the development of preschool children. Emphasis is placed on designing learning activities that will enhance the development of their movement awareness, motor patterns and perceptual-motor skills. The course includes 15 hours of laboratory experiences in day care centers. D 13 325 1 0835

326. Physical Education in the Primary Grades. (3). 3R. 2L. The second in the series designed for an emphasis in elementary school physical education. It focuses on developmental movement activities for children in grades K-3. The course includes 15 hours of experiences with primary school children. D 13 326 0 0835

327. Physical Education in the Intermediate Grades. (3). 3R. 2L. The final course in the series designed for an emphasis in elementary school physical education. It focuses on developmental movement activities for children in grades 4-6. The course includes 15 hours of laboratory experiences with intermediate grade school children. D 13 327 1 0835

328. Kinesiology and Biomechanics. (3). The understanding of the kinesiotics and mechanics of human motion, with respect to performance of sport activities. D 13 328 0 0835

331. Athletic Injuries and Training Techniques. (2). 2R. 1L. Injuries common to athletic activities, emphasis on prevention, first aid, treatment and care as prescribed by the team physician. D 13 331 1 0835

336. Theory and Organization of Basketball. (2). The theory, organization, responsibilities and techniques of coaching basketball. D 13 336 0 0836

377. Theory and Organization of Track and Field. (2). The theory, organization, responsibilities and techniques of coaching track and field. D 13 377 0 0835

338. Theory and Organization of Baseball. (2). The theory, organization, responsibilities and techniques of coaching baseball. D 13 338 0 0835

340. Adaptive Physical Education. (3). Designed to assist students in developing the necessary skills for the implementation of enjoyable physical activity into the lives of persons impaired, disabled or handicapped. In addition to classroom work, the students participate in at least two hours per week in observations and physical activity with persons impaired, disabled or handicapped. Prerequisites: ISSE 310 or departmental consent. D 13 340 0 0818

426. Administration of Recreation and Leisure Services. (3). A study of administrative procedures for park and recreation departments; organization, finance, personnel, facilities, public relations and evaluation. Prerequisites: all recreation courses. D 13 426 2 0835

427. Internship in Recreation. (6). Students are employed at approved field experience agencies as supervisory personnel for a minimum of 40 hours per week for a 16-week session. Both the agency and the University provide guidance and supervision. Prerequisite: PER 426. D 13 427 2 0835

430. Advanced Athletic Training Techniques I. (3). A study of professional relationships, pharmacology, injuries specific to the upper and lower extremities and related training problems. D 13 430 0 0835

431. Advanced Athletic Training Techniques II. (3). A course emphasizing athletic injuries of the head, neck and trunk. Special problems, nutrition and exercise programs also are studied. Development of advanced athletic training skills. D 13 431 0 0835

442. Athletic Training Lab I, II, III, IV. (1). A laboratory course designed to provide practical learning experiences in the prevention, first aid and care of athletic injuries. May be repeated. D 13 442 1 0835

449. Concepts in the Prescription of Exercise. (3). An introduction of techniques appropriate for screening, health appraisal and fitness assessment as required for prescribing exercise programs for persons without disease or with controlled disease, and provision for practical experience in a supervised setting. Prerequisite: PE 530 or equivalent. D 13 449 1 0835

430. Fitness Practicum. (2). Application of theory to practice by assisting in campus fitness classes and the Human Performance Lab a minimum of 15 hours per week. Not repeatable. Prerequisites: PE 117, 201E, 440, 530 or 530 C and 500 GPA or departmental consent. D 13 430 2 0835

481. Cooperative Education. (1-5). A course designed to allow students to participate in the Cooperative Education program. Offered Cr/NCr only. Prerequisite: PER 112. D 13 481 2 0835

Courses for Graduate/Undergraduate Credit

500. Health Education. (2-3). Health problems and organization of materials for health instruction. Individual projects are required for graduate students. D 13 500 2 0837

502. Applied Health I. (3). Introduction to public health problems and practices. Field excursions are arranged. Prerequisite: departmental consent. D 13 502 2 0837

504. Applied Health II. (2). Intensive study of selected health problems with regard to illness, prevention and the present state of world health. Prerequisite: PER 502 or departmental consent. D 13 504 2 0837

515. Rhythmic Activities in the Elementary School. (2). This course is designed to teach methodology and curricular content of rhythmic activities appropriate for elementary school children. D 13 515 2 0835

530. Physiology of Exercise. (3). 3R. 1L. To enable the student to develop a working knowledge of human physiology as it relates to exercise. D 13 530 1 0835

533. Measurement and Evaluation in Physical Education. (3). A study of the
modern practices utilized in the total evaluation of physical education programs including (1) basic statistical procedures, (2) evaluating students, (3) evaluating teaching and (4) a survey of measurement tools. D 13 533 0 0835

544. Organization and Administration of Physical Education Programs. (3). The organizational and administrative problems of physical education programs and the management of the physical plant. D 13 544 2 0835

547. Field Option Internship. (8). Culuminating activity for students in fitness, sports business, safety or athletic training. Students spend the equivalent of full-time employment in the appropriate agency for one full semester. Prerequisites: senior standing and departmental consent. D 13 547 2 0835

590. Independent Study. (1-3). Prerequisite: departmental consent. D 13 590 0 0835

750. Workshop in Education. (1-4). D 13 750 2 0835

752. Special Studies in Health, Physical Education and Recreation. (1-3). Group study in a preselected area of health, physical education or recreation. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 13 752 0 0835

770. Psychology of Sport. (3). An in-depth analysis of the psychology of sport and its implications for the teacher-coach. D 13 770 0 0835

781. Cooperative Education Field Study. (1-8). The goal of this course is to provide the graduate student with a field placement which integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with appropriate graduate faculty. The plan of study for a graduate degree-bound student must be filed before approval of enrollment for cooperative education graduate credit. May be repeatable for credit with a limit of eight hours counting toward the graduate degree. Offered Cr/NCr only. D 13 781 2 0835

Courses for Graduate Students Only

800. Recent Literature in Health, Physical Education and Recreation. (3). Survey and critical analysis of research and other pertinent materials in the field. D 13 800 0 0835

801. Seminar in Sports Administration. (3). This course is designed to provide the student with a comprehensive overview of problems relating to sports administration programs. A sample of topics covered follows: public relations, promotion, personnel management, finance, accounting, contest management and travel. D 13 801 9 0837

810. Adapted Physical Education. (3). Philosophy, principles and methods of adapting physical education and recreational activities to the needs of the handicapped and the exceptional individual. Laboratory experience is provided. Prerequisite: PE 329 or departmental consent. D 13 810 1 0819

812. Advanced Techniques in Physical Education. (3). Comprehensive coverage of selected physical activities, with special emphasis on class procedures. Laboratory experiences are included. D 13 812 1 0835

815. Fitness Assessment and Exercise Prescription. (3). Introduces techniques appropriate for screening, health appraisal and fitness assessment as required for prescribing exercise programs for individuals without disease or with controlled disease. Prerequisites: PE 530 or equivalent and graduate standing. D 13 815 0 0835

825. Physical Education in Elementary Schools. (2). New concepts, recent trends, methodology, programming and supervision. This course is designed for the elementary teacher and physical education specialist. D 13 825 0 0835

830. Advanced Physiology of Exercise. (3). In-depth study into the physiological basis of exercise. Includes energy metabolism, respiratory dynamics, cardiovascular function and regulation during rest, steady state and exhaustive physical activity. Special emphasis is given to immediate and long term adaptation to exercise and training. Prerequisite: HPER 530. D 13 830 1 0835

847. Internship. (6-12). Internship in selected areas of specialization in exercise science or sports administration. Prerequisite: departmental consent. D 13 847 2 0835

866. Research Methods in Health, Physical Education and Recreation. (3). An introduction to research in health, physical education and recreation. Included in the course content are: (1) research design and methodology, (2) research design and methodology, (3) laboratory and nonlaboratory studies and (4) the research report. D 13 860 0 0835

875. Thesis. (2). Prerequisites: ISEP 704 and PE 860. D 13 875 4 0835

876. Thesis. (2). Prerequisites: ISEP 704 and PE 860. D 13 876 4 0835

880. Analysis of Motor Skills. (3). Movement and sport skills analyzed in terms of mechanical principles by means of films and experimentation. D 13 880 0 0835

890. Problems in Health, Physical Education and Recreation. (1-4). Directed reading and research under supervision of a graduate instructor. D 13 890 3 0835

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R 2L means two hours of lecture and two hours of lab.
College of Engineering

William J. Wilhelm, PhD, Dean

Modern technological developments in engineering have brought about considerable change in the College of Engineering’s curriculum at The Wichita State University. The curriculum provides a vigorous, challenging experience through a broad spectrum of fundamental technical knowledge as well as courses in humanities, social sciences, communications, mathematics and physical sciences. This balance in the curriculum prepares students for professional positions in the scientific-industrial community after the bachelor’s degree or allows them to continue in graduate studies for a more active participation in research and advanced study.

The programs in engineering are offered in daytime and evening classes, and the courses are the same whether they are taught in the day or at night.

The undergraduate programs in aeronautical, electrical, industrial and mechanical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Degrees Offered

Undergraduate

The College of Engineering is organized into four degree-granting departments: aeronautical, electrical, industrial and mechanical. Undergraduate programs in these departments lead to the Bachelor of Science in each of these areas. A degree program for the Bachelor of Science in Engineering (BSE) also allows students to pursue in-depth studies in additional fields, such as computer science and premed engineering, as well as other interdisciplinary programs.

The college cooperates with Kansas Newman College in a dual degree program in electrical engineering and mathematics. Inquiries regarding the program should be addressed to the chair of the electrical engineering department.

Graduate

A Master of Science (MS) is offered in aeronautical, electrical and mechanical engineering, and a Master of Science in Engineering Management Science (MSEMS) is offered by the industrial engineering department.

A Doctor of Philosophy (PhD) in engineering is offered by the four departments of engineering. Typical fields of specialization include analytical and computational fluid mechanics, applied statistical methods, avionics, biomechanics, communications, computers, control systems, engineering management science, engineering materials, electromagnetic fields, ergonomics/rehabilitation, failure analysis, heat transfer, information systems, manufacturing, mechanical design, production processes, productivity enhancement, propulsion, signal process, structural dynamics, structures and thermodynamics. See The Wichita State University Graduate Bulletin for more information about the graduate program.

Policies

Admission

Students requesting a transfer to the College of Engineering must satisfy the following admission requirements:

1. An overall 2.000 grade point average and a WSU 2.000 grade point average.
2. Completion of 24 semester credit hours of college-level work.
3. Declaration of a specific engineering major.
4. Completion of each of the following courses with a grade of C or better: (a) English 101; (b) English 102, Speech 111 or Speech 112; (c) Math 2420 or its equivalent; and (d) one required basic science course.

Engineering students who have not had high school physics are permitted to register for Phys. 3130 if the mathematics prerequisite has been fulfilled. Since most students in Phys. 3130 have had some preparatory physics, students without this background should plan for extra study time in this course. Engineering students who have not had high school physics are permitted to register for Phys. 213Q. These students are then required to take Phys. 314Q when they have fulfilled prerequisites for this course, which are: Math 243 with a grade of C or better and Phys. 213Q with consent of the physics department.

Probation

Students are placed on academic probation if one or more of the following three grade point averages is less than 2.000 and if they have attempted at least 12 hours in that grade point average at The Wichita State University: (1) overall grade point average, (2) WSU grade point average and (3) engineering major grade point average. Attempted hours are defined as all hours appearing on the transcript with a grade of A, B, C, D, F, P, W, Cr, NCr, I, S or U. Academic probation is not removed until all three grade point averages are at least 2.000.

Students on academic probation may not enroll for more than 12 semester hours in a 16-week term, six semester hours in an eight-week term or three hours in a four-week term. Exceptions to these limitations may be made on the recommendation of the student’s department adviser with the approval of the student’s department chairperson.

Academic Dismissal

Students are subject to academic dismissal from The College of Engineering when they are on academic probation because of their overall grade point average, WSU grade point average and/or engineering major grade point average and fail to receive a 2.000 grade point average in the next 12 hours attempted in the affected grade point average(s) after being placed on academic probation.

Other Policies

Students must complete their third communications skills requirement within two semesters after being admitted to the college.

Students must file an application for degree card in the engineering dean’s office two semesters preceding their final semester.

No course used to meet any engineering degree requirement can be taken on an APass/Fail basis.

Students are not allowed credit toward graduation for D grade work in excess of one-quarter of their total hours. At midterm, reports of unsatisfactory grades are sent to the students.

Students enrolled in the College of Engineering may not enroll in more than 20 semester hours of work per semester during the academic year. Summer Session enrollments are limited to a maximum of five hours for each four-week session or ten hours during the eight-week session. Students who have completed at least 24 hours at WSU with a WSU grade point average of 3.000 or higher may petition their department chairperson for permission to enroll in excess hours.

Students who are employed full or part time should, in consultation with their academic adviser, reduce their enrollments to a level appropriate to their work load.

In order to insure an equitable distribution of class cards and to aid each student’s timely progress toward a de-
A student who drops a course taught by the College of Engineering any time after the first day of classes will not be permitted to preregister for the same course during the semester in which the drop occurs or during the next regular registration period. During the late registration period, class cards will only be issued as available with departmental consent. A student may petition the chairperson of the engineering department where the course is taught for an exception to this rule.

Only students admitted to the College of Engineering or the Graduate School will be allowed to enroll in engineering courses at the 300 level or above, unless the course is designated a general studies course by the University. Because there are legitimate reasons for qualified nonengineering students to enroll in an engineering course at the 300 level or above, the chairperson of the department offering the course will consider petitions for exceptions to the preceding statement.

### Graduation Requirements

#### University Requirements

For new freshmen entering the University, requirements for the College of Engineering are:

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic skills</td>
<td>12</td>
</tr>
<tr>
<td>Humanities and fine arts*</td>
<td>9</td>
</tr>
<tr>
<td>Social and behavioral sciences**</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics and natural sciences</td>
<td>Satisfied by college requirements</td>
</tr>
</tbody>
</table>

Elective distribution courses Satisfied by college requirements

To qualify for graduation, all engineering students must complete each of the following courses with a grade of C or better: English 101, English 102, Speech 111 or 112.

A minimum of 17 hours of humanities and fine arts and social and behavioral sciences is required by the Accrediting Board. In addition, at least two courses are required in one of the departments in humanities and fine arts or social and behavioral sciences. The two-course sequence must include at least one course numbered 200 and above.

At least nine hours of general studies courses must be taken to satisfy University requirements.

For a complete explanation of the General Education Program, see the Academic Information section of the Catalog.

* Courses must be taken in at least three departments.
** Courses must be taken in at least two departments.

### General Engineering Requirements

All engineering students follow the same general curriculum for the first two years. For administrative purposes, students are requested to choose a departmental curriculum in which to study, but they may change to another curriculum during this period without losing credit toward graduation. All engineering programs are designed to meet ABET accreditation criteria and must include:

1. The equivalent of approximately 2½ years of study in the area of mathematics, science and engineering. The course work should include at least one year of mathematics beyond trigonometry and basic sciences, one year of engineering sciences and one-half year of engineering design.

2. The equivalent of one-half year as the minimum content in the area of humanities and social sciences. While the objective of a broad, liberal education is served through independent humanities and social science courses, courses treating such subjects as accounting, industrial management, finance, personnel administration and ROTC studies do not fulfill this objective. Likewise, skills, theory and technical courses in fields such as musicology, linguistics and speech do not fulfill the humanities/social science objective. If there are questions regarding the selection of specific courses, contact the engineering records office for assistance and interpretation.

Each of the engineering curricula consists of three parts: (1) the general education requirements of the University, (2) an engineering core program and (3) specialized departmental courses.

To satisfy the general education requirements of the University, the student must complete courses in the following two divisions: (1) Division A, Humanities and Fine Arts and (2) Division B, Social and Behavioral Sciences. For a more detailed description of general education requirements, see the Academic Information—General Education Program section of the Catalog.

Every engineering student is required to complete a total of 13 hours of courses from the following engineering core courses. Some of these courses are required as prerequisites for the departmental offerings; the remainder of courses should be selected in consultation with a faculty adviser.

#### Engineering Core (13 Hours Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE 355, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>AE 323, Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>ME 398, Thermodynamics I</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition to the engineering core requirements, students must complete:

1. A minimum of 33-34 hours of engineering science, depending upon curriculum
2. A minimum of 17 hours of design, synthesis or systems engineering
3. A minimum of 24 hours of engineering courses taken outside their major department
4. 26 hours of University requirements as described earlier
5. A minimum of 17 hours of mathematics and 17 hours of natural sciences
6. A minimum of 17 hours of humanities and social sciences
7. Three to four hours of a natural science elective chosen from the following list in consultation with the departmental adviser: Biol 203Q, 3700, 509Q; Chem. 112Q, 546, Geol. 111Q, 302Q; Phys. 551, 555, 621, 714.

The recommended sequence of courses for engineering students in all departments is outlined later in this section. Each sequence has been planned so that students can complete the program in the minimum time and can satisfy all University course requirements and prerequisites for engineering students. Students should discuss any desired deviation from this sequence with an engineering faculty adviser.

### Interdisciplinary Fields (Bachelor of Science in Engineering)

The College of Engineering offers special 132- to 135-hour programs designed to help students who wish to pursue studies in interdisciplinary fields. The Bachelor of Science in Engineering (BSE) program permits the development of combinations of specialties while providing for other fields of knowledge and expertise.

The BSE program is designed to meet the needs of students who wish to pursue studies in specific fields, such as computer science and biomedical engineering. Students in this program meet essentially the same basic requirements as other engineers do in three years of study and then complete courses—either inside or outside of the College of Engineering—for their specialized interests.
Students can major in computer science while pursuing either the Bachelor of Science in Engineering (BSE) in the College of Engineering or the Bachelor of Science (BS) or the Bachelor of Arts (BA) in Fairmont College of Liberal Arts and Sciences.

For the BSE, the University requirements and general engineering requirements are the same as described in the two previous sections. Specific program and course requirements for the BSE may be obtained from a check sheet upon request from the dean's office.

Cooperative Education Program

The College of Engineering offers a cooperative education program in conjunction with the University Cooperative Education program described in this Catalog.

The co-op plan is a voluntary program in which the student alternates paid professional work periods with classroom periods during the junior and senior years. The two most typical plans are illustrated in the following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester</td>
<td>F</td>
<td>S</td>
<td>Su</td>
</tr>
<tr>
<td>Plan A</td>
<td>W</td>
<td>C</td>
<td>W</td>
</tr>
<tr>
<td>Plan B</td>
<td>W</td>
<td>C</td>
<td>W</td>
</tr>
</tbody>
</table>

C indicates in college; W indicates at work.

These plans make it possible for each industrial position to be filled by two students, one from Plan A and one from Plan B.

To be eligible for the co-op program, a student must demonstrate by academic performance during the freshman year the potential to complete the degree program satisfactorily. Generally this means the earning of a grade point average of 2.500 or higher. Also the student's character and personality must be acceptable to the cooperating employer. Transfer students with the above qualifications will be accepted after one semester of academic residence at WSU. To continue in the program, a student must maintain a satisfactory academic standing.

Students interested in participating in the program should contact the College of Engineering co-op coordinator who will provide the necessary application information. Upon acceptance into the program, the coordinator will assist the student in arranging interviews with cooperating industries.

Engineering—General Education

The following courses explore general education engineering topics.

Lower-Division Course

125. Introduction to Engineering Concepts. (3). An introduction to the orderly approach to problem solving used in engineering by guiding the student through a comprehensive design project. Emphasis is placed on problem formulation and solution techniques as they are required in the design project. Co-requisites: Math 2420 and English 101. Not open for enrollment to students with more than 48 hours of credit. E 10 125 1 0901

Upper-Division Course

300G. Technology and Society. (3). A course to demonstrate how-in depth but without technical jargon—developments in technology. Emphasis is placed upon conceptual understanding of interrelationships between technology and its users. Responsibility of nontechnologists to be familiar with technical developments in order to effectively control technology for social and enrichment is stressed. Guest lecturers and demonstrations are used extensively. Prerequisite: upper division standing. E 10 300G 0 0901

Courses for Graduate/Undergraduate Credit

510. Topics in Engineering. (3). This course demonstrates the relationship between engineering and mathematics and the natural and physical sciences. The use of these disciplines in the practice of engineering will be shown through specific examples. Prerequisites: Math. 112 and two semesters of natural science (a semester of physics preferred). E 10 510 0 0901

565. Computer Graphics. (3). 2L; 2L. Forms of computer graphics, input-output devices, generation of points, vectors, etc. Included are interactive versus passive graphics and the mathematics of three dimensions, projections and the hidden line problem. Additional topics, computer-aided design and instruction are included as well as applications. Prerequisites: Math. 344. EE 190 or AE 327 or equivalent. E 10 565 1 0901

600. Integration of Engineering Concepts. (3). A course designed for senior students to integrate their classwork into a coherent concept of the major principles, tools and techniques of engineering. Prerequisites: senior standing, preferably taken last semester of undergraduate work. E 11 600 0 0901

Course for Graduate Students Only

980. Advanced Selected Topics in Engineering. (1-3). New or specialized advanced topics in engineering are presented under this listing. Repeatable for credit when subject material warrants. Prerequisite: instructor's consent. E 10 980 0 0901

Bachelor of Science Degree in Aeronautical Engineering

Sequence of Courses

The undergraduate program requires the completion of 133 semester hours for graduation, minus advanced placement credit. The suggested course of study for aeronautical engineering students is given in the accompanying table.

Model Program

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 3130 and 3135, University Physics I</td>
<td>5</td>
</tr>
<tr>
<td>IE 222, Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>AE 327, Engineering Digital Computation</td>
<td>2</td>
</tr>
</tbody>
</table>

Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech 111, Basic Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Math. 311, Introduction to Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
</tbody>
</table>
Math. 550, Ordinary Differential Equations ............................................. 3
Phys. 314Q, University Physics II .............................................................. 4
AE 323, Engineering Mechanics: Statics ...................................................... 3
AE 324, Introduction to Aeronautical Engineering ....................................... 2
AE 339, Mechanics of Deformable Solids I .................................................. 3
AE 373, Engineering Mechanics: Dynamics .................................................. 3
ME 398, Thermodynamics I .......................................................... 3
Humanities and fine arts or social and behavioral sciences electives** .......... 6

Junior Courses

Course |
--- |
AE 350, Materials Engineering ................................................................. 4
AE 400, Fluid and Heat Flow ............................................................ 4
AE 424, Aerodynamic Theory ................................................................. 4
AE 532, Propulsion ................................................................. 3
AE 525 and 625, Flight Structures I and II .................................................. 6
AE 568, Systems Dynamics ................................................................. 6
AE 527, Numerical Methods in Engineering ............................................. 6
Humanities and fine arts or social and behavioral sciences electives** .......... 6

Senior Courses

Course |
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AE 512 Experimental Methods in Aeronodynamics ................................... 2
AE 514, Flight Mechanics ................................................................. 3
IE 355, Engineering Economy ............................................................. 3
EE 382, Electrical Dynamics ............................................................... 4
AE 528 and 628, Airplane Design I and II ............................................... 6
Natural sciences elective* ................................................................. 3
Humanities and fine arts or social and behavioral sciences electives** .......... 5
Technical electives ................................................................. 9

* Refer to general engineering requirements at the beginning of this section for list of approved courses.
** Refer to graduation requirements at the beginning of this section for details.

Lower-Division Courses

281A. Co-op Education. (1). This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full-time on their co-op assignment and need not be enrolled in any other course. May be repeated. Offered Cr/NPr only. Prerequisites: 30 hours toward a bachelor of science in aeronautical engineering degree and approval by appropriate faculty sponsor. E 10 281A 2 0901

281P. Co-op Education. (1). This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. Students must enroll concurrently in a minimum of six hours of course work including this course in addition to a minimum of 20 hours per week at their co-op assignment. Prerequisites: successful completion of 20 hours toward an engineering degree and approval by appropriate faculty sponsor. May be repeated. Grade is Cr/NPr. E 10 281P 2 0901

Upper-Division Courses

323. Engineering Mechanics: Statics. (3). Statics is the study of the equilibrium of rigid bodies under the action of forces. Rigid bodies include frames, trusses, and machines. Prerequisites: AE 320B or departmental consent. E 11 420B 0 0902

324. Introduction to Aeronautical Engineering. (2). 1R; 2L. Introductory course in aeronautical engineering. The study of atmosphere, historical development of science of aeronautics, aircraft and aeronautical nomenclature, non-dimensional forces and moments and equilibrium of aircraft in flight. Introduction to aircraft materials, structural analysis and experimental stress analysis. Prerequisites: AE 320B or departmental consent. E 11 420C 0 0902


333. Mechanics of Deformable Solids I. (3). Deformable solids is the study of mechanical properties of materials, transformation of stresses and strains, stresses and deformations in structural elements of various shape and loading, statically indeterminate structures and buckling. Prerequisites: AE 323 and Math. 344 which may be taken concurrently. E 11 333 1 0921


420A. Airplane Aerodynamics I, Qualitative Aspects. (1). Aircraft nomenclature. Structure of the atmosphere. Aircraft forces and moments and their nondimensionalization. Lift and drag phenomena; Separation and stall. Wing pressure distribution. Aircraft design procedure. Not acceptable as a technical elective for the BS in aeronautical engineering. Prerequisites: AE 420A or departmental consent. E 11 420A 0 0902

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analyses of various physical systems. Prerequisite: AE 373 and Math 550. E 11 508 1 0901


525. Flight Structures I. (3). Stress analysis of flight vehicle components. Prerequisites: AE 324, AE 333, Math 550 and ME 350 both of which may be taken concurrently. E 11 525 0 0902

527. Numerical Methods in Engineering. (3). Error analysis. Polynomial approximations and power series, iterative solutions of equations, matrices and systems of linear equations, numerical differentiation and integration, approximate solution of differential equations by finite differences are included. Prerequisites: AE 327 and Math 550 which may be taken concurrently. E 11 527 1 0901


532. Propulsion. (3). Turboprop and turbofan engines, cycle analysis and performance prediction, study of inlet and exhaust problems and integration with airframe. Piston engines, turbines and propellers—theory and performance. Prerequisites: AE 327 and AE 424, may be taken concurrently. E 11 532 0 0902

560. Selected Topics in Aeronautical Engineering. (1-3). Prerequisite: departmental consent. E 11 560 0 0902


625. Flight Structures II. (3). 2R; 3L. Strength analysis and design of flight vehicle components. Special projects in structural analysis and design. Prerequisite: AE 525. E 11 625 0 0902

628. Airplane Design II. (2, 2R; 2L. Computer-aided design (CAD) of airplanes. Design integration, flight dynamics, optimization. Prerequisite: AE 528. E 11 628 1 0902

633. Mechanics of Deformable Solids II. (3). The course is an extension of AE 333. Typical topics studied are transformation of stress and strain in three dimensions, noncircular torsional members, curved beams, buckling and postbuckling behavior, cross sections, energy methods and the finite element method of analysis, stress concentration, theories of failure, fracture mechanics, etc. Prerequisite: AE 333. E 11 633 0 0921

653. Basic Composite Material Technologies. (3). An introduction to the basic composite material technologies including mechanical behavior, material classification, testing methods, manufacturing methods, nondestructive inspection and design. Prerequisite: AE 333. E 11 653 0 0921

675. Selected Topics in Aeronautical Engineering. (1-3). Prerequisite: departmental consent. E 11 675 0 0902

676. Selected Topics in Engineering Mechanics. (1-3). Prerequisite: departmental consent. E 11 676 0 0902

677. Vibration Analysis. (3). A study of free, forced, clamped and undamped vibrations for one and two degrees of freedom, as well as classical, numerical and energy solutions for multidegree freedom systems. An introduction to continuous systems is given. Prerequisites: Math 550 and AE 373. E 11 677 0 0921

700. Structural Dynamics I. (2). Matrix methods for the analysis of the free and forced vibrations of multiple degrees of freedom structures. Prerequisite: AE 677. E 11 700 1 0902

702. Jet Propulsion. (3). Analysis of jet propulsion devices, study of cycle effects and operating variables, noise, effect of problems of installation, operation and instrumentation. Prerequisite: AE 532 or equivalent. E 11 702 0 0902

709. Flight Stability and Control. (3). Comprehensive analysis of flight dynamic stability and control, application to the analysis of closed-loop flight systems. Prerequisite: AE 514. E 11 709 0 0902

711. Intermediate Aerodynamics. (4). A study of equations of motion, potential flow, conformal transformations, finite wing theory, nonsteady airfoil theory and advanced numerical techniques in aerodynamics. Prerequisite: AE 424 or 420 or ME 621. E 11 711 0 0902

712. Advanced Aerodynamics Laboratory. (2). 1R; 2L. Advanced topics in wind tunnel testing, including analysis and sensitivity, model testing techniques, design and calibration, control, surface loads and moments, laser velocimetry, hot film anemometry, dynamic signal processing, flow measurement principles, flow visualization using smoke tunnel and water tunnel. Prerequisite: AE 512 or instructor's consent. E 11 712 1 0902


716. Aerodynamics of Compressible Fluids I. (3). Analysis of compressible fluid flow for one- and two-dimensional cases, inviscid shock waves, one-dimensional flow with friction, shock heating, laminarized potential functions, method of characteristics, conical shocks and subsonic similarity laws. Prerequisites: AE 333, AE 420, ME 621 or equivalent. E 11 716 0 0902


731. Analysis of Elastic Solids I. (3). The equations of elasticity are developed and used to determine stresses and deformations in two dimensional (plane stress and plane strain) problems. Additional topics include: analysis of isotropic, orthotropic and anisotropic plates; energy methods of analysis, and numerical methods of analysis such as finite elements, finite differences and collocation. Credit will not be granted for both AE 730 (no longer offered) and 731. Prerequisite: instructor's consent. E 11 731 0 0921

753. Mechanics of Fiber Composites. (3). An introduction to generalized Hooke's Law for deformable solids: two-dimensional orthotropic and anisotropic stress-strain relations applicable to a laminate of fiber composite: stiffness and strength of laminates made of several laminates at different fiber orientations. Simple laminated and filament wound composite products made of advanced fiber composites such as graphite-epoxy, kevlar-epoxy, boron-epoxy, etc., are designed and analyzed. Prerequisites: AE 333 and Math 311 or instructor's consent. E 11 753 0 0921

760. Selected Topics in Engineering Mechanics. (1-3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 11 760 0 0902

761. Selected Topics in Aerodynamics and Fluid Mechanics. (1-3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 11 762 0 0902

773. Engineering Mechanics: Dynamics II. (3). A study of kinematics and kinetics of particles and rigid bodies for two- and three-dimensional motion, with an introduction to vibratory motion. Lagrange's equations are included. Prerequisite: AE 373 or equivalent. E 11 773 0921

Courses for Graduate Students Only

801. Structural Dynamics II. (2). A study of vibration of strings and membranes; longitudinal, torsional and lateral vibration of bars; lateral vibration of plates and shells; classical, numerical and energy solutions, and an introduction to problems of stability. Prerequisite: AE 514 or instructor's consent. E 11 801 0 0921


812. Aerodynamics of Viscous Flows. (3). Viscous flows, fluid theory and boundary layers. Prerequisite: AE 424 or 420 or ME 621. E 11 812 0 0902

817. Transonic Aerodynamics. (2). Experimental and analytical difficulties in flow and flight near Mach one. Basic equations and solution methods: linearized potential equation; shock-ocurrence criteria on wings; Transonic Area Rule; nozzle throat design; detached shock wave computations; computational methods. Prerequisites: AE 424, 420 or equivalent; and AE 711 or 716. E 11 817 0 0921

822. Finite Element Analysis of Structures. (3). Analysis of structures by the direct stiffness method and comparison of methods and selected topics in finite element analysis. Prerequisites: AE 333 and instructor's consent. E 11 822 0 0920

831. Analysis of Elastic Solids II. (3). The course is a continuation of AE 731 with topics taken from elastic stability, fracture mechanics etc. Methods of analysis include energy methods and numerical methods such as finite elements and collocation. E 11 831 0 0921

832. Theory of Plates and Shells. (3). Small deflections of thin elastic plates; classical solutions for rectangular and circular plates; approximate solutions for plates of various shapes; introduction to the analysis of thin shells. Prerequisite: 731. E 11 832 0 0921

833. Theory of Elastic Stability. (3). Buckling of columns, frames, beams, plates and shells. Prerequisite: AE 731. E 11 833 0 0921

838. Random Vibration. (3). Includes characterization, transmission and failure of mechanical systems subjected to random vibration. Analysis and measurement methods for random data are included. Prerequisite: instructor's consent. E 11 838 0 0921

860. Selected Topics in Aeronautical Engineering. (1-3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject matter warrants. Prerequisite: departmental consent. E 11 860 0 0902

876. MS Thesis. (1-6). E 11 876 4 0902

878. Directed Studies. (1-2). A course involving directed study under the supervision of a graduate faculty member. A written report is required. Repeatable toward an MS degree, subject to departmental approval. Prerequisite: graduate standing. E 11 878 4 0902

913. Aerodynamics of Aeroelasticity. (3). A study of thin airfoils and finite wings in steady flow and thin airfoils oscillating in incompressible flow. Extension to compressible and three-dimensional airfoils and modern methods for low aspect ratio lifting surfaces are included. Prerequisites: AE 711 and 677 or instructor's consent. E 11 913 0 0902

916. Aerodynamics of Compressible Fluids II. (2). An exploration of perfect gas flows past bodies of revolution. Also included are axisymmetric method of characteristics, high temperature gases in equilibrium and frozen flows and one- and two-dimensional moving shock waves. An introduction is made to separated flows and jet mixing. Prerequisite: AE 716. E 11 916 0 0902

935. Theory of Plasticity. (3). Includes criteria of yielding, including plastic stress-strain relationships and stress and deformation in thick-walled shells, rotating discs and cylinders; bending and torsion of prismatic bars for ideally plastic and strain-hardening materials. Two-dimension and axially symmetric problems of finite deformation and variational and extremum principles are included. Prerequisite: AE 731. E 11 936 0 0921

976. PhD Dissertation. (1-16). Repeatable up to a maximum of 36 hours. Prerequisite: admission to doctoral aspirant status. E 11 976 4 0902

990. Advanced Independent Studies in Aeronautical Engineering. (1-3). Prerequisite: instructor's consent. E 11 990 3 0902

Electrical Engineering
In the electrical engineering department emphasis is placed on the intensive study of physical laws appropriate to the study of modern electrical devices, including electrical machines. Courses stress the laws governing the individual behavior as well as behavior in the interconnection of devices. Analysis and synthesis of electrical networks or systems are of particular concern in specialized courses. The undergraduate program in electrical engineering is flexible enough to allow students to concentrate their electives in communications and signal processing, control systems, computer science, electric power systems, digital systems, electromagnetics and electronics.

Bachelor of Science Degree in Electrical Engineering
Sequence of Courses
Electrical engineering students must have a strong interest in mathematics and physics. As part of the curriculum, senior-level students are required to take a senior project of their own choosing under the supervision of a faculty member. The choice of subject material varies and represents a challenge in judgment and creativity in design. This program requires the completion of 132 semester hours for graduation, minus hours commensurate with advanced placement credit.

Specific requirements and a suggested semester breakdown for the electrical engineering program are given in the accompanying table.

Model Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Freshman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Eng. 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 313Q, University Physics I *</td>
<td>4</td>
</tr>
<tr>
<td>EE 199, Engineering Computing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts electives</td>
<td>3</td>
</tr>
</tbody>
</table>

Sophomore
<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Math. 550, Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II *</td>
<td>4</td>
</tr>
<tr>
<td>AE 323, Engineering Mechanics Statics</td>
<td>3</td>
</tr>
<tr>
<td>IE 355, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>ME 398, Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
<td>6</td>
</tr>
<tr>
<td>Technical electives</td>
<td>3</td>
</tr>
</tbody>
</table>

Junior
<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 363, Electromagnetic Field Theory I</td>
<td>3</td>
</tr>
<tr>
<td>EE 388, Electromechanical Energy Converters</td>
<td>4</td>
</tr>
<tr>
<td>EE 492, Electronic Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>EE 580, Transient and Frequency Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Stat. 671, Probabilistic Models and Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3 or 4</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
<td>6</td>
</tr>
<tr>
<td>Technical electives</td>
<td>5</td>
</tr>
</tbody>
</table>

Senior
<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 585 and 595, Electrical Design Projects 1 and 2</td>
<td>2</td>
</tr>
<tr>
<td>EE 681, Electronic Circuits II</td>
<td>4</td>
</tr>
<tr>
<td>EE 693, Energy and Information Transmission</td>
<td>2</td>
</tr>
<tr>
<td>EE 686, Information Processing</td>
<td>4</td>
</tr>
<tr>
<td>EE 699, Electrical Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Technical electives</td>
<td>15</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
<td>3</td>
</tr>
</tbody>
</table>

* One of the following must be taken: Phys. 315 or 316 or a four-hour course from the natural science elective list.
† Out-of-department engineering courses.
‡ At least nine hours must be taken in at least three departments: Division A, humanities and fine arts. At least six hours must be taken in at least two departments in Division B, social and behavioral sciences. At least nine hours of General Studies courses must be taken in these divisions. The remaining courses, 10 or G, must be selected such that at least two courses are taken in one of the departments above. The two-course sequence must include at least one course numbered 200 or above. G or Q courses must be selected from the list of G and Q courses approved by the College of Engineering. The student is strongly urged to enroll in the mandatory nine hours of G courses before taking G courses in Division A or B.

The following requirements concern technical electives.

In every case the program of engineering courses selected must include 33 hours of engineering science, 17 hours of engineering design and 24 hours of engineering
Courses outside the electrical engineering department. The student is responsible for seeing that these requirements are met.

2. A minimum of nine credit hours must be taken within the electrical engineering department. These courses must include any two of EE 542, EE 548, EE 538 and EE 644.

Lower-Division Courses

218. Engineering Computing Fundamentals. (3) An introductory course in digital computer programming using FORTRAN with applications to elementary engineering problems. Both FORTRAN syntax and problem solving approaches are stressed. Laboratory exercises are given for students to gain experience in both batch and interactive computing. Prerequisite: Math. 111 or 1218 1 0909

228. Assembly Language Programming for Engineers. (3) An introduction to basic concepts of computer organization and operation. A study is made of machine and assembly language programming concepts that are related to microprocessors and microcomputers. Prerequisites: EE 199 or equivalent. E 12 228 1 0909

248. Introduction to Engineering Analysis Methods. (3) Introduction to laboratory methods, data collection and presentation, report writing and presentation. Application of microcomputer word processing and spread sheet programs to report writing and data presentation and the use of BASIC for analyzing laboratory results. Prerequisite: Eng. 101. E 12 248 1 0909

Upper-Division Courses

363. Electromagnetic Field Theory I. (3) A vector development of electric and magnetic fields, principles of electromagnetic theory, and basic electromagnetic phenomena and Maxwell’s equations. Prerequisites: Phys. 314Q and Math. 550. E 12 363 1 0909

382. Electrical Dynamics. (4) 3R; 3L. Electric circuit analysis with emphasis on the study of electrical networks, sinusoidal oscillation, frequency response, network theorems, coupled circuits and polyphase circuits. Prerequisites: Math. 344, Phys. 314 and EE 199 or AE 327. E 12 382 1 0909

477. Selected Topics in Electrical Engineering. (1-3) New or special courses as approved under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent. E 12 477 1 0909

480. Transient and Frequency Analysis. (3) 3R. Review of classical transient analysis and Fourier series. An introduction is made to Laplace and Fourier transforms with emphasis on network response, complex frequency concepts and signal spectra. Prerequisites: EE 382 and Math. 550. May not be counted toward a graduate electrical major. E 12 480 1 0909

481A. Co-op Education. (1) This course is designed to provide the student the opportunity to obtain practical experience in application of engineering principles by employment in an engineering-related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full-time on their co-op assignment and need not be enrolled in any other course. Prerequisites: junior standing and approval by appropriate faculty sponsor. E 12 481A 1 0909

481P. Co-op Education. (1) This course provides the student the opportunity to obtain practical experience in engineering principles by employment in an engineering-related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. Students must enroll concurrently in a minimum of 20 hours per week at their co-op assignment. Prerequisites: junior standing and approval by appropriate faculty sponsor. E 12 481P 1 0909

488. Electromechanical Energy Converters. (4) 3R; 3L. Theory and analysis of electric and magnetic energy conversion devices. Prerequisite: EE 382 or departmental consent. E 12 488 1 0909

492. Electronic Circuits I. (3) 3R. An introduction to semiconductor devices including discrete devices and integrated circuits and the circuit analysis and system simulation and digital circuits. Applications include, but are not limited to, signal conditioning, logic devices, active filters and power supplies. Prerequisites: EE 382 and Math. 650. E 12 492 1 0909

494. Logic Design and Switching Theory. (3) 3R. An introduction to the function and application of digital integrated circuits. Combinational and sequential design techniques are covered in detail. Prerequisite: EE 218. May not be counted for credit toward a graduate electrical major. E 12 494 1 0909

Courses for Graduate/Undergraduate Credit

585. Electrical Design Project I. (1) 3L. A study design project under faculty supervision chosen according to the student’s interest. Prerequisite: departmental consent. May not be counted toward a graduate electrical major. E 12 585 1 0909

586. Advanced Electromechanical Energy Converters. (4) 3R; 3L. A continuation of EE 488, including solid-state control. Computer applications are stressed. Prerequisites: EE 482 and 488. E 12 586 1 0909

595. Electrical Design Project II. (1) 3L. May not be counted toward a graduate electrical major. Prerequisite: EE 585 or departmental consent. E 12 595 1 0909

599. Electrical Energy Systems. (3) 3R. Concepts of electric energy systems, high-energy transmission lines, system representation, load flow analysis, load flow control, economic operation, symmetrical and unsymmetrical fault, network theory, fault analysis. Prerequisite: Computer applications are stressed. Prerequisite: EE 488. E 12 599 1 0909

638. Engineering Applications of Small Computers. (3) This course is designed to provide an understanding and appreciation of small computer capability and the application of these computers to engineering problems. Through hands-on operation, topics such as interfacing to special equipment, introduction to high level computer languages, Solaris, and Unix, design, and management of computer aided design. Prerequisites: EE 594 or equivalent and at least one EE course at 500 level or above. E 12 638 1 0909

663. Waves, Waveguides and Antennas. (3) A study of radiation and transmission of electromagnetic waves. Topics include plane wave propagation in various media, normal and oblique reflections, dielectric windows, transmission line theory, antenna theory and design, and introduction to antennas. Prerequisite: EE 353, and EE 662. E 12 663 1 0909

681. Electronic Circuits II. (4) 3R; 3L. An introduction to the theory and application of discrete and integrated circuits. Topics include, but are not limited to, active and switched capacitor filters, nonlinear circuits, analog and digital phase locked loops, switched-mode power conversion and RF circuits. Prerequisites: EE 492 and 585 or departmental consent. May not be counted for credit toward a graduate electrical major. E 12 681 1 0909

682. Energy and Information Transmission. (2) 3R. A study of the theory and application of transmission lines. Topics include, but are not limited to, steady state, computer aided design, and Fourier transforms. Prerequisites: EE 492 and 585 or departmental consent. May not be counted for credit toward a graduate electrical major. E 12 682 1 0909


684. Introductory Control System Concepts. (3) An introduction to system modeling and simulation, dynamic response, feedback theory, stability criteria and computer-aided design. Prerequisite: EE 580. E 12 684 1 0909

688. Information Processing. (4) 3R; 3L. Properties of signals and noise, introduction to information theory, and AM, FM, and pulse modulation and detection. Principles of sampling, coding and multiplexing and the organization of analog and digital systems for information processing are included. May not be counted toward a graduate electrical major. Prerequisites: EE 594 or departmental consent. E 12 688 1 0909

689. Electrical Laboratory. (4) 4L. This course provides training in laboratory methods and in experimental design methods. It consists of selected experiments related to EE 688 and a special project of the students' own choosing. Prerequisites, depending on the background of the students enrolled. May not be counted for credit toward a graduate electrical major. Prerequisites or corequisites: EE 682 and two of EE 594, 598, 638, 623 and 2C 12 689 1 0909

694. Digital Computer Design Fundamentals. (3) An introductory but reasonably detailed study of stored program digital computers from an integrated hardware-software viewpoint. Computer arithmetic, computer architecture, logical design, arithmetic units and operation, large capacity storage systems, input-output systems and systems integration. Prerequisite: EE 594 or departmental consent. E 12 694 1 0909

754. Probabilistic Methods in Systems. (3) This is a course in random processes which is designed to prepare the student for work in communications, controls, computer systems, information theory and signal processing. The course covers basic concepts and useful analytical tools for engineering problems involving discrete and continuous time random processes. Applications to systems analysis and identification, analog and digital signal processing, data compression.
parameter estimation and related disciplines will be discussed. Prerequisites: EE 580 and Stat. 671 or IE 354 or departmental consent. E 12 754 0 0909

781. Analog Filters. (3) A detailed study of analog filter design methods. Both passive and active-filters are studied. Analog filter approximations are discussed; sensitivity and noise analyses are covered. Prerequisite: EE 681. E 12 761 0 0909

782. Methods of Discrete Systems Analysis. (3). A study of methods of analysis of discrete-time signals and systems. Time-domain techniques include difference equations and discrete convolution. Z-transform methods, frequency response of discrete systems, discrete Fourier transform and fast Fourier transform are covered. Applications in digital signal processing and sampled-data systems are surveyed. Prerequisite: EE 580 or departmental consent. E 12 782 0 0909

786. Digital Communication Systems. (3). The theoretical and practical aspects of digital communication, modulation and coding systems and presented. Topics covered include the modeling and analysis of information sources as discrete processes, basic source and channel coding and decoding; spectral and time domain considerations related to ASK, PSK, DPSK, QPSK, FSK, MSK and other techniques appropriate for communicating digital signals over both base-band and band-pass systems; intersymbol interference; effects of noise on systems performance; optimum systems; and general M-ary digital systems in signal-space. Prerequisites: EE 754 and 686. E 12 786 0 0909

790. Independent Study In Electrical Engineering. (1-3). Arranged individual, independent study in specialized content areas in electrical engineering under the supervision of a faculty member. Repeatable for credit. Prerequisite: departmental consent. E 12 790 4 0909

794. Advanced Digital Systems. (3). A course covering primarily two topics: (1) microprocessors and (2) microprogramming. The operation and application of microprocessors are presented and a survey of available devices is reviewed. The characteristics of programmable architecture are covered and examples of microprogramming are presented. The techniques are applied on the department’s microprogrammable minicomputer. Prerequisites: EE 694 and 226 or equivalent. E 12 794 0 0909

Courses for Graduate Students Only

854. Stochastic Control Systems. (3). Review of the pertinent aspects of deterministic system models; stochastic processes and linear dynamic system models with emphasis on linear systems driven by white Gaussian noises; linear estimation and optimal filtering; design and performance analysis of Kalman filters. Prerequisites: EE 684 and 754. E 12 854 0 0909

876. MS Thesis. (1-3). Repeatable for credit toward the MS thesis option up to six hours. Prerequisite: prior consent of MS thesis advisor. E 12 876 4 0909

877. Special Topics in Electrical Engineering. (3). New or special courses are presented to supplement regular offerings. Prerequisite: departmental consent. Repeatable for credit. Prerequisite: departmental consent. E 12 877 0 0909

878. Directed Studies In Electrical Engineering. (1-4). Repeatable toward the MS directed study option for up to four hours. The student must write a paper and give an oral presentation on the study made. Prerequisite: departmental consent. E 12 878 4 0909

883. Digital Filters. (3) A study of digital filter design methods. Both IIR and FIR filters are included. Software and hardware implementations are discussed; two-dimensional digital filters are introduced. Prerequisites: EE 782 or departmental consent. E 12 883 0 0909

886. Error Control Coding. (3). Fundamentals from information theory which underlie source and error control coding are presented. Topics from finite field theory and vector spaces essential for the study of coding and decoding of codespace, sphere packing and perfect codes are presented. Linear (n,K) block codes are considered in some detail including topics such as error detection and correction concepts, parity check matrices and syndromes, Hamming codes, cyclic codes, error-trapping decoding, BCH codes, burst-error-correcting codes, interleaving and product codes. Convolutional codes and topics such as the Viterbi algorithm for decoding are presented. Prerequisites: EE 666 and 754. E 12 886 0 0909

888. Selected Topics In Antennas and Propagation. (3). Determination of characteristics of antenna patterns; radiation patterns and antenna impedance; diffraction, horns, slots, etc.; and wave propagation in the earth's environment, including tropospheric and ionospheric phenomena. Prerequisite: EE 663. E 12 888 0 0909

889. Advanced Electrical Laboratory. (2). 6L Training in fundamental experimental technology in some field of electrical specialization. This course consists of selected experiments in various areas of electrical engineering. The general subject area is announced each semester the course is offered. Repeatable for credit. Prerequisite: departmental consent. E 12 889 1 0909

890. Topics In Control Systems. (3). A study of various concepts which include multi-loop systems, multivariable systems, and state-space system models with emphasis on linear systems driven by white Gaussian noises; linear estimation and optimal filtering; design and performance analysis of Kalman filters. Prerequisites: EE 684 and 754. E 12 890 0 0909

893. State-Variable Techniques In Systems I. (3). A study of state-space concepts in the areas of nonlinear systems and optimal and suboptimal control systems with wide classes of performance measures. Prerequisite: EE 792 or departmental consent. E 12 893 0 0909

895. Nonlinear Control Theory. (3). An introduction to the analysis and design of nonlinear control systems with emphasis on stability. Topics include stability concepts, linearization, nonlinear systems, and sampled-data systems. Prerequisite: EE 792 or departmental consent. E 12 895 0 0909

898. Advanced Energy Systems. (3). A continuation of EE 586 with the topics treated in greater depth. Computer applications are stressed. Prerequisite: EE 586 or departmental consent. E 12 898 0 0909

900. Advanced Selected Topics In Engineering. (1-3). New or specialized advanced topics in engineering are presented. Repeatable for credit. Prerequisite: instructor's consent. E 12 900 0 0909

976. PhD Dissertation. (1-16). Repeatable up to a maximum of 36 hours. Prerequisite: admission to doctoral aspirant status. E 12 976 4 0909

993. Sensitivity Methods In Control Systems Design. (3). Sensitivity analysis of deterministic and stochastic systems; sources of uncertainty in control systems, e.g., plant parameter variation, time delays, small nonlinearities, noise disturbances and model reduction; quantitative study of the effects of uncertainties on system performance, sensitivity design strategies; sensitivity analysis of systems and near-optimal control. Prerequisites: EE 893. E 12 993 0 0909

Industrial Engineering

The industrial engineering department is concerned with instruction and research in design, analysis and operation of integrated systems of people, material, equipment and money. Students may select 12 hours of technical electives to form a specialization of their study of operations research, human factors or manufacturing systems. This allows students to specialize in a specific area of industrial engineering, and students' programs are determined by their own interests in consultation with their faculty advisers.

Modern, well-equipped laboratories are available to supplement classroom theory in human factors engineering, manufacturing processes and computer analysis. The industrial engineering department also has modern computer graphics facilities.

Bachelor of Science Degree In Industrial Engineering

Sequence of Courses

The industrial engineering program re-
requires the completion of 134 semester hours for graduation, minus hours commensurate with advanced placement credit. Specific requirements and a suggested semester breakdown for the industrial engineering program are given in the accompanying table.

### Model Program

#### Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 313Q, University Physics I</td>
<td>4</td>
</tr>
<tr>
<td>Phys. 315Q, University Physics Lab</td>
<td>1</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science elective</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 311, Introduction to Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Math. 550, Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>EE 322, Engineering Mechanics: Statics*</td>
<td>3</td>
</tr>
<tr>
<td>EE 199, Engineering Computing Fundamentals*</td>
<td>3</td>
</tr>
<tr>
<td>AE 373, Engineering Mechanics: Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>EE 222, Engineering Graphics</td>
<td>4</td>
</tr>
<tr>
<td>ME 398, Thermodynamics I*</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 201Q, Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 202Q, Principles of Economics II</td>
<td>3</td>
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</table>

#### Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 333, Mechanics of Deformable Solids I*</td>
<td>3</td>
</tr>
<tr>
<td>IE 354, Engineering Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>IE 355, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>IE 452, Work Measurement</td>
<td>3</td>
</tr>
<tr>
<td>IE 549, Human Factor in Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>IE 450, Applied Operations Research I</td>
<td>3</td>
</tr>
<tr>
<td>IE 556, Manufacturing and Materials</td>
<td>3</td>
</tr>
<tr>
<td>ME 350, Materials Engineering</td>
<td>4</td>
</tr>
<tr>
<td>Natural sciences elective **</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts electives †</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Senior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE 553, Production Control</td>
<td>3</td>
</tr>
<tr>
<td>IE 554, Statistical Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>IE 556, Introduction to Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IE 570, Manufacturing Process Control</td>
<td>3</td>
</tr>
<tr>
<td>IE 590, Senior Projects in Industrial Engineering</td>
<td>2</td>
</tr>
<tr>
<td>IE 665, Management Systems Simulation</td>
<td>3</td>
</tr>
<tr>
<td>Technical electives §</td>
<td>11</td>
</tr>
</tbody>
</table>

- Out-of-department engineering courses.
- † Any calculus-based mathematics course approved by the industrial engineering department.
- § Out-of-department engineering courses.
- † At least nine hours must be taken in at least three departments in Division C. At least three additional hours must be taken in Division D outside of the Department of Economics. At least six hours of general studies courses designated "G" courses must be included within Divisions A and B. At least two courses are required in one department of Division A or B, and the two-course sequence must include at least one course numbered 200 or above.

### Lower-Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>222, Engineering Graphics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>3L, The use of computer graphics to produce technical drawings and solve engineering design problems. A study of basic spatial relationships involving orthographic projections, auxiliary views and pictorial projections. Aspects of design implementation include dimensioning, tolerancing, sectional views, threaded fasteners and working drawings. Course also uses descriptive geometry to find true lengths of lines; spatial relationships between points, lines and planes; and intersections of solids, surfaces and conic sections. Prerequisite: Math 123 or equivalent. E 13 222 1 0901</td>
<td></td>
</tr>
<tr>
<td>250, Topics in Engineering Graphics (2).</td>
<td>3</td>
</tr>
<tr>
<td>3L, The application of engineering graphics to the study of special problems and to methods of information. Prerequisite: EE 222. E 13 250 1 0901</td>
<td></td>
</tr>
<tr>
<td>281P, Co-op Education (1).</td>
<td>3</td>
</tr>
<tr>
<td>This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with the appropriate faculty sponsors and cooperative education coordinators. This course is designed for students who will be working full time on their co-op assignment and need not be enrolled in any other course. May be repeated. Offered Cr/Ncr only. Grade is S/U. Prerequisites: junior standing and approval by appropriate faculty sponsor. E 13 281P 2 0901</td>
<td></td>
</tr>
</tbody>
</table>

### Lower-Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>354, Engineering Probability and Statistics (3).</td>
<td>3</td>
</tr>
<tr>
<td>The basic theory of probability and statistics with emphasis on applications to engineering. Prerequisite: EE 199 or AE 327. E 13 354 1 0901</td>
<td></td>
</tr>
<tr>
<td>355, Engineering Economy (3).</td>
<td>3</td>
</tr>
<tr>
<td>Economic comparisons of engineering alternatives considering the time value of money, taxes and depreciation. Prerequisites: Math 243 and EE 197 or AE 327. E 13 355 0 0913</td>
<td></td>
</tr>
<tr>
<td>356, Safety Engineering (3).</td>
<td>3</td>
</tr>
<tr>
<td>Environmental aspects of accident prevention, industrial compensation and safety legislation. Prerequisites: E 13 355 0 0913</td>
<td></td>
</tr>
<tr>
<td>357, Applied Operations Research I (3).</td>
<td>3</td>
</tr>
<tr>
<td>A study of linear programming and network models, game theory, simplex method, dual problems and sensitivity analysis. Prerequisites: IE 354 and 355. E 13 357 0 0913</td>
<td></td>
</tr>
<tr>
<td>358, Work Measurement (3).</td>
<td>3</td>
</tr>
<tr>
<td>Work measurement, time study, methods simplification, work sampling, predetermined time standards and time formula derivation. Prerequisites: IE 354 and 355. E 13 358 1 0913</td>
<td></td>
</tr>
<tr>
<td>359, Selected Topics in Industrial Engineering (1-4).</td>
<td>3</td>
</tr>
<tr>
<td>New or special course material is presented under this listing based upon sufficient student demand. Repeatable for credit. Prerequisite: departmental consent. E 13 361 0 0913</td>
<td></td>
</tr>
<tr>
<td>481P, Co-op Education (1).</td>
<td>3</td>
</tr>
<tr>
<td>This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with the appropriate faculty sponsors and cooperative education coordinators. This course is designed for students who will be working full time on their co-op assignment and need not be enrolled in any other course. May be repeated. Offered Cr/Ncr only. Grade is S/U. Prerequisites: junior standing and approval by appropriate faculty sponsor. E 13 481P 2 0901</td>
<td></td>
</tr>
</tbody>
</table>

### Courses for Graduate/Undergraduate Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>549, The Human Factor in Engineering Design (3).</td>
<td>3</td>
</tr>
<tr>
<td>A systematic approach to the optimization of human-environment interaction. Topics include human information processing and limitations, work space design and environmental factors. Prerequisite: IE 354. E 13 549 0 0913</td>
<td></td>
</tr>
<tr>
<td>553, Production Control (3).</td>
<td>3</td>
</tr>
<tr>
<td>Quantitative techniques used in the analysis and control of production systems. Topics include forecasting, inventory models, operation planning and scheduling. Prerequisite: IE 450. E 13 553 1 0913</td>
<td></td>
</tr>
<tr>
<td>554, Statistical Quality Control (3).</td>
<td>3</td>
</tr>
<tr>
<td>Measurement and control of product quality using process control and acceptance sampling techniques. Prerequisite: IE 354. E 13 554 1 0913</td>
<td></td>
</tr>
</tbody>
</table>

### Upper-Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>354, Engineering Probability and Statistics (3).</td>
<td>3</td>
</tr>
<tr>
<td>The basic theory of probability and statistics with emphasis on applications to engineering. Prerequisite: EE 199 or AE 327. E 13 354 1 0901</td>
<td></td>
</tr>
<tr>
<td>355, Engineering Economy (3).</td>
<td>3</td>
</tr>
<tr>
<td>Economic comparisons of engineering alternatives considering the time value of money, taxes and depreciation. Prerequisites: Math 243 and EE 199 or AE 327. E 13 355 0 0913</td>
<td></td>
</tr>
<tr>
<td>356, Safety Engineering (3).</td>
<td>3</td>
</tr>
<tr>
<td>Environmental aspects of accident prevention, industrial compensation and safety legislation. Prerequisites: E 13 355 0 0913</td>
<td></td>
</tr>
<tr>
<td>357, Applied Operations Research I (3).</td>
<td>3</td>
</tr>
<tr>
<td>A study of linear programming and network models, game theory, simplex method, dual problems and sensitivity analysis. Prerequisites: IE 354 and 355. E 13 357 0 0913</td>
<td></td>
</tr>
<tr>
<td>358, Work Measurement (3).</td>
<td>3</td>
</tr>
<tr>
<td>Work measurement, time study, methods simplification, work sampling, predetermined time standards and time formula derivation. Prerequisites: IE 354 and 355. E 13 358 1 0913</td>
<td></td>
</tr>
<tr>
<td>359, Selected Topics in Industrial Engineering (1-4).</td>
<td>3</td>
</tr>
<tr>
<td>New or special course material is presented under this listing based upon sufficient student demand. Repeatable for credit. Prerequisite: departmental consent. E 13 361 0 0913</td>
<td></td>
</tr>
<tr>
<td>481P, Co-op Education (1).</td>
<td>3</td>
</tr>
<tr>
<td>This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with the appropriate faculty sponsors and cooperative education coordinators. This course is designed for students who will be working full time on their co-op assignment and need not be enrolled in any other course. May be repeated. Offered Cr/Ncr only. Grade is S/U. Prerequisites: junior standing and approval by appropriate faculty sponsor. E 13 481P 2 0901</td>
<td></td>
</tr>
</tbody>
</table>
01

This course is a study of the application and numerical control. Prerequisite: ME 350. E 13 558 0 0913

570. Manufacturing Process Control. (3). Fundamentals of microprocessors and microcomputers for industrial engineering applications. Topics include basic digital concepts; data acquisition; system development for timing, counting decision making and control, characteristics and applications. Prerequisite: EE 199. Corequisite: EE 382. E 13 570 0 0913

590. Senior Projects in Industrial Engineering. (1-3). Selection and research of a specific industrial engineering topic. Prerequisites or corequisites: IE 452 and 550. E 13 590 3 0913


665. Management Systems Simulation. (3). The design of simulation methods and techniques for use in managerial decision models, engineering evaluations and other systems too complex to be solved analytically. Emphasis is on general purpose computer simulation languages. Prerequisites: EE 199 and IE 354. E 13 665 1 0913

670. Industrial Robotics I. (3). A study of principles and applications of industrial robots in modern manufacturing systems. Topics include robot classifications and configuration; actuators; robot sensors; control systems; robot programming; economic justification. Prerequisite: EE 199 or equivalent. E 13 670 0 0913


720. Urban Systems. (3). Cross-listed as UA 720. This course develops the principles of systems analysis and the tools by which these principles can be applied. Example applications are taken from urban problems. Emphasis is on the formulation of realistic models and solutions. Computer techniques are developed in class as necessary. Prerequisite: departmental consent. E 13 720 0 0913

730. Advanced Linear Programming. (3). A continuation of IE 450. included topics are the development of the simplex method, revised simplex, decomposition, bounded variables, parametric programming and integer programming. Prerequisite: IE 450. E 13 730 0 0913

732. Queuing and Inventory Systems. (3). An analysis of the development of queueing and inventory systems and their interrelationships. Poisson, non-Poisson and imbedded Markov chain queueing models are discussed. Includes the development of single and multiple item constrained inventory models and periodic and continuous review policies. Prerequisite: IE 650. E 13 732 0 0913

740. Analysis of Decision Processes. (3). A study of value of money, economic of equipment selection and replacement, engineering economic evaluation of proposals, computer analysis and the solution of economic problems by the analysis of certainty, risk and uncertainty. Prerequisites: IE 354 and 355. E 13 740 0 0913

743. Applied Operations Research. (4). A study of various techniques used in operations research. Included topics are mathematical programming, queueing theory, inventory models and simulation. Prerequisites: IE 354 and EE 199. E 13 743 0 0913

745. Production Engineering Cases. (3). The organization, design and control of production and assembly systems and functions. The formulation of manufacturing policies and case studies in production system design are included. Prerequisite: IE 553. E 13 745 0 0913

749. Advanced Human Factors. (3). A continuation of IE 549. Topics include principles and applications of human factors in the design of the workplace, displays, control systems, hand tools and video display terminals. Prerequisite: IE 549. E 13 749 0913

750. Industrial Engineering Workshops. (1-4). Various topics in industrial engineering. Prerequisite: departmental consent. E 13 750 2 0913

753. Facilities Planning and Design. (3). Quantitative and qualitative approaches to problems in facilities planning and design, with emphasis on activity relationships, space requirements, materials handling and storage, plant layout planning and facilities location. Prerequisite: IE 553. E 13 753 0 0913

754. Reliability and Maintainability Engineering. (3). Intended to acquaint students with the evolving methodology of reliability which is a design parameter. Problems of quantifying, assessing and verifying reliability are studied. Various factors that determine the stress and strength of components with emphasis on practical applications are presented. Examples cover a broad range of engineering fields such as mechanical, electrical, industrial, aeronautical, metalurgical, chemical, structures, automatic control systems. Prerequisite: IE 354. E 13 754 0 0913

756. Decision Support Systems. (3). A study of various decision support system techniques including relational databases, spreadsheets and expert systems. Prerequisite: IE 556 or departmental consent. E 13 756 0 0913

757. Modern Techniques in Safety Engineering. (3). An advanced study of the principles and quantitative measures of industrial safety and the Occupational Safety and Health Act. Prerequisite: IE 357. E 13 757 0 0913

760. Engineering Probabilistic and Statistical Techniques. (3). A study of hypothesis testing, regression analysis, analysis of variance, correlation analysis and nonparametric statistics with emphasis on applications to engineering. Prerequisite: IE 354. E 13 760 0 0913

764. Systems Engineering and Analysis. (3). A study of the development of system design processes from the identification of a need through concept design, preliminary design, system development and system test and evaluation. Operational feasibility, reliability, maintainability, sustainability and economic feasibility are studied. Prerequisites: IE 354 and IE 355. E 13 764 0 0913

780. Topics in Industrial Engineering. (3). New or special courses are presented under this listing. Repeatable for credit when subject matter warrants. E 13 780 0 0913

831. Classical Optimization Techniques. (3). An extensive treatment of those optimization techniques that do not require the use of linear programming and development of variational methods, direct search and numerically based techniques is given. Prerequisite: IE 450. E 13 831 0 0913

835. Applied Forecasting Methods. (3). Analysis of prediction techniques in forecasting and scheduling by time series and probability models, smoothing techniques and error analysis. Prerequisite: IE 760 E 13 835 0 0913

842. System Simulation with Digital Computers. (3). Advanced development of the techniques and methods for simulating complex systems. Emphasis is on the design of simulation experiments and on the statistical analysis of results. Prerequisite: IE 665. E 13 842 1 0913

843. Operations Research. (3). A study of the theory and application of nonlinear model-building techniques for the problems found in industry. Included topics are the Jacobian method, Lagrange multipliers, and separable, convex, quadratic, geometric and stochastic programming. Prerequisites: IE 450 and IE 650. E 13 843 1 0913


587. Environmental Hygiene Engineering. (3). Evaluation and control of mechanica physical and chemical environments. Environmental factors considered include heat, cold, noise, vibration, light, pressure, acceleration, radiation and air contaminants. Prerequisite: IE 549. E 13 857 0 0913

860. Engineering Management Communications. (3). This course is a study of the design of technical communications for specific audiences, the team writing process, the editing of your own and others technical writing, formal presentation of technical material and the design of visual aids. E 13 860 0 0913

870. Flexible Manufacturing Systems. (3). Advanced study of modern, computer integrated manufacturing systems. Topics include integrated CAD/CAM systems, data base in FMS, robots application, interfacing machines, computers and measuring devices. Prerequisite: IE 570. E 13 870 0 0913


879. Seminar in Management Science. (3). Application of management science methods and models to real problems. A special project, including original case research, supervised internships or field research, is assigned. Prerequisite: departmental consent. E 13 879 0 0913

880. Topics in Industrial Engineering. (3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject matter warrants. E 13 880 0 0913

930. Multiple Criteria Decision Making. (3). An extensive treatment of techniques for
decision making where the multiple criteria nature of the problem must be recognized explicitly. Prerequisites: IE 450 or IE 743. E 13 930 0 0913

949. Work Physiology. (3). The study of cardiovascular, pulmonary and muscular responses to industrial work including aspects of endurance, strength, fatigue, recovery and the energy cost of work. Utilization of physical work capacity and job demand for task design, personnel assignment and assessment of work-rest scheduling. Prerequisite: IE 549. E 13 949 0 0913

950. Occupational Biomechanics. (3). Theoretical fundamentals of the link system of the body and kinetic aspects of body movement. Includes application of biomechanics to work systems. Prerequisites: IE 549 and AE 223. E 13 950 0 0913

956. Knowledge-Based Systems. (3). Introduction to the concepts and techniques in knowledge-based systems or expert systems. Includes design and development of simple knowledge-based system using microcomputer-based software. E 13 956 0 0913

970. Industrial Robotics II. (3). An advanced study of modern robotics systems. The course emphasizes the design of the robotic cell for manufacturing industry. Topics include artificial intelligence in robotics, vision systems, structural and environmental applications, automation with robots and flexible assembly. Prerequisite: IE 570. E 13 970 1 0913

976. PhD Dissertation. (1-16). Repeatable up to a maximum of 36 hours. Prerequisite: admission to doctoral aspirant status. E 13 976 4 0913

990. Advanced Independent Study in Engineering. (1-3). Arranged individuals, independent study in specialized content areas. Repeatable toward the PhD degree. Prerequisites: advanced standing and departmental consent. E 13 990 3 0913

Mechanical Engineering

The Mechanical Engineering Department provides students with a comprehensive engineering education. Graduates of the program are found in all phases of engineering activity: research, development, design, production and technical management. Graduates are employed or self-employed in such diverse fields as mechanical engineering design; analysis of thermodynamic and transport processes; instrumentation, controls and automation; engineering materials properties and failure modes; and bioenvironmental engineering, including heating, ventilating and air conditioning. Practicing mechanical engineers are found in virtually every sector of every activity in the developed and developing nations of the world.

Students are prepared to accept these challenges through an integrated course of study which emphasizes the professional practice of engineering. The program has several components: a basic series of courses in mathematics and natural science, communications, humanities and social sciences; a core of engineering science subjects; a set of required design and application courses; and a group of technical electives. The electives, which are taken during the senior year, permit further study in the fields of specialization enumerated in the introductory paragraph.

Bachelor of Science Degree in Mechanical Engineering

Sequence of Courses

The program requires the completion of 134 semester hours for graduation, minus hours commensurate with advanced placement credit. Specific requirements and a suggested semester breakdown for the mechanical engineering program are given in the table.

Model Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 333</td>
<td>Mechanics of Deformable Solids</td>
<td>3</td>
</tr>
<tr>
<td>IE 355</td>
<td>Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>EE 382</td>
<td>Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>ME 350</td>
<td>Materials Engineering</td>
<td>4</td>
</tr>
<tr>
<td>ME 400</td>
<td>Fluid and Heat Flow (R)</td>
<td>4</td>
</tr>
<tr>
<td>ME 401</td>
<td>Fluid and Heat Flow (L)</td>
<td>1</td>
</tr>
<tr>
<td>ME 402</td>
<td>Mechanical Engineering Measurements</td>
<td>3</td>
</tr>
<tr>
<td>ME 439</td>
<td>Mechanical Engineering Design I</td>
<td>3</td>
</tr>
<tr>
<td>ME 502</td>
<td>Thermodynamics II</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
<td></td>
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</table>

Senior

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 503</td>
<td>Mechanical Engineering Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>ME 541</td>
<td>Mechanical Engineering Design II</td>
<td>3</td>
</tr>
<tr>
<td>ME 621</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>ME 622</td>
<td>Heat Transfer</td>
<td>3</td>
</tr>
<tr>
<td>ME 659</td>
<td>Mechanical Control</td>
<td>3</td>
</tr>
<tr>
<td>ME 662</td>
<td>Mechanical Engineering Practice</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Engineering electives</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
<td></td>
</tr>
</tbody>
</table>

Lower-Division Courses

281A. Co-op Education. (1). This course introduces the student to engineering practices by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full time on their co-op assignment and need not be enrolled in any other course. May be repeated. Offered Cr/Nr only. Prerequisites: successful completion of 30 hours toward an engineering degree and approval by the appropriate faculty sponsor. E 14 281A 2 0910

281P. Co-op Education. (1). This course introduces the student to engineering practices by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and coop-
Upper-Division Courses

339. Elements of Mechanical Engineering Design. (3). Introduction to engineering design process, design, analysis and optimization. Basic kinematics, motion and force analysis in mechanisms such as plane linkages, gears and cams, Synthesis of plane linkages and simple cam systems, Computer applications as well as an introduction to gas dynamics. Prerequisites: ME 333 and Chem 1101, both with C or better grade. E 4 339 0 0910

355. Materials Engineering. (4), 3R; 3L. Study of important structural materials used in engineering, including metals, polymers and composites, primarily from a phenomenological viewpoint. Prerequisites: AE 333 and Chem 1101, both with C or better grade. E 4 355 0 0910

398. Thermodynamics I. (3). A study of the first and second laws. Thermal analysis is presented, to thermal, mechanical and fluid systems. Prerequisites: Math 243 and Phys. 3140, both with C or better grade, and AE 327 or CME 300, both with C may be taken concurrently. E 4 398 0 0910

400. Fluid and Heat Flow. (4), 4R. A study of pressure and velocity fields, kinematics of perfect and real fluids, dimensional analysis and similarity; temperature fields and heat transfer, conduction, convection and radiation, as well as an introduction to gas dynamics. ME 401, Fluid and Heat Flow Laboratory, complements the analytic content of ME 400 with laboratory experiments designed to illustrate the concepts presented in the latter course. Prerequisites: Phys. 3140 and ME 398, both with C or better grades, and Math. 550, which may be taken concurrently. E 4 400 0 0910

401. Fluid and Heat Flow Laboratory. (1) 3L. This laboratory course is designed to illustrate and reinforce the concepts presented in ME 400. Prerequisite or corequisite: ME 400. Note: In the event ME 400 and ME 401 are taken concurrently, withdrawal from ME 400 shall result in immediate automatic withdrawal from ME 401. E 4 401 0 0910

402. Mechanical Engineering Measurements. (3), 2R; 3L. An introduction to modern measurement techniques in mechanical engineering. Prerequisites: ME 339 and 400 and EE 382, all with C or better grades. E 4 402 0 0910

439. Mechanical Engineering Design I. (3). Principles of mechanical design, with emphasis on practice in the application of many mechanical design elements-shafts, bearings, gears, brakes, clutches, thread fasteners, etc. Topical include machine elements design, material selection, fatigue, stress concentration, statistical concepts and cost standardization. Innovative practical applications demonstrating integration of machine elements into a practical device. Prerequisites: ME 339, AE 333 and Math 550. E 4 439 0 0910

450. Selected Topics in Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject and material warrants. Prerequisites: departmental consent. E 4 450 0 0910

469. Energy Conversion. (3). Energy conversion principles and their implementation in engineering design, including thermodynamic, mechanical and nuclear and direct energy conversion processes. Prerequisites: ME 398. E 4 469 0 0910

481A. Co-op Education. (1). This course provides the student the opportunity to obtain practical experience in application of engineering principles by employment in an engineering related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full time on their Co-op assignment and need not be enrolled in any other course. Prerequisites: junior standing and approval by the appropriate sponsor. E 4 481A 2 0910

481P. Co-op Education. (1). This course provides the student the opportunity to obtain practical experience in application of engineering principles by employment in an engineering related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. Students enrolling in ME 481P must enroll concurrently in a minimum of 20 hours per week at their co-op assignment. Prerequisites: junior standing and approval by the appropriate faculty sponsor. E 4 481P 2 0910

Courses for Graduate/Undergraduate Credit

The courses numbered 502 through 758 are not automatically applicable toward an advanced degree in engineering. They must be approved by the student's adviser, the graduate coordinator and the chairperson of the department.

502. Thermodynamics II. (3). Continuation of ME 398, with emphasis on stability, reversibility, Maxwell's equations and thermodynamic property relations. Prerequisites: ME 398. E 4 502 0 0910

503. Mechanical Engineering Laboratory. (2). 6L. Selected experiments designed to illustrate the methodology of experimentation as applied to thermal and mechanical systems. Emphasis on performance of typical systems and evaluation of physical properties and parameters of systems. Prerequisites: ME 402, 541, 622. E 4 503 1 0910

504. Instrumentation. (3), 2R; 3L. A more complete treatment of the instrumentation problem with careful examination of modern instrumentation systems, including dynamic behavior and nonlinearity. Criteria for design of sensors and selection of instrumentation systems are included. Prerequisites: ME 402. E 4 504 1 0910

541. Mechanical Engineering Design II. (3), 2R; 3L. Applications of the engineering design principles to the creative design of mechanical equipment. Problem definition, conceptual design, feasibility studies, design calculations to obtain creative solutions of current real engineering problems. Introduction to human factors, economics and reliability theory. Group and individual design projects. Prerequisites: ME 350 and 439 with a grade of C or better in both. E 4 541 1 0910

544. Environmental Engineering. (3). Theory, analysis and design of heating, ventilating and air-conditioning systems based on psychrometrics, thermodynamics and mass transfer fundamentals. Emphasis is on design procedures for space air-conditioning and heating and cooling loads in buildings. Prerequisites: ME 400 and 502. E 4 544 0 0910

548. Mechanical Engineering Projects. (1). A design, analysis or research project under faculty supervision. Problems are selected according to student interest. Prerequisites: ME 402 and senior standing. E 4 548 3 0910

550. Selected Topics In Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject and material warrants. Prerequisite: departmental consent. E 4 550 0 0910

621. Fluid Mechanics. (3). Continuation of fluid mechanics stem of ME 400. Analysis of steady and transient, incompressible, multidimensional flow fields with emphasis on continuity, momentum and energy equations. Included are potential flow, boundary layer theory and fluid machinery. Prerequisites: ME 400. E 4 621 0 0910

622. Heat Transfer. (3). A continuation of heat transfer stem of ME 400: steady and transient, incompressible, multidimensional conduction, free and forced convection, radiation and conduction heat transfer methods, analogies, numerical methods and approximate solutions are discussed. Prerequisites: ME 400 and 621 (may be taken concurrently). E 4 622 0 0910

639. Biomechanical Engineering. (3). Study of the physiology and biophysics of the living body from the standpoint of mechanical engineering principles. Various artificial organs and life support systems are introduced and discussed. Prerequisites: ME 400 and Math. 550. E 4 630 0 0910

641. Thermal Systems Design. (3). Modeling, simulation and optimization used as tools in the design of thermal systems. Engineering design principles, characteristics of thermal equipment and economic considerations are discussed. Open-ended problems are studied, including work on design projects in small groups. Prerequisites: ME 400 and 502, both with a grade of C or better. E 4 641 0 0910

648. Mechanical Engineering Projects. (1). A design, analysis or research project under faculty supervision. Problems are selected according to student interest. Prerequisite: ME 548. E 4 648 3 0910

650. Selected Topics In Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject and material warrants. Prerequisite: departmental consent. E 4 650 0 0910

659. Mechanical Control. (3). Modeling and simulation of dynamic systems. Theory and analysis of the dynamic behavior of control systems, based upon the laws of physics and...
linear mathematics. Concern is with classical methods of feedback control systems and design. Prerequisites: ME 402 and 439. E 14 659 0 0910

662. Mechanical Engineering Practice. (2). 4L. An exercise in the practice of mechanical engineering in which students engage in a comprehensive design project requiring the integration of knowledge gained in prerequisite engineering science and design courses. Open only to mechanical engineering students in their last semester of study. Prerequisite: ME 541. E 14 662 1 0910

670. Senior Thesis I. (1). A design, analysis or research project performed under faculty direction. Enrollment is limited to mechanical engineering students who are in the last two semesters of their studies and requires recommendation by a member of the department faculty and approval of the department chairperson. Prerequisites: ME 541 which may be taken concurrently, and departmental consent. E 14 670 3 0910

671. Senior Thesis II. (1). A continuation of ME 670. Prerequisite: ME 670. E 14 671 3 0910

705. Design of Engineering Experiments. (3). Study of theoretical, analytical and statistical aspects of basic engineering experiments. Theory of test planning, data checking, analysis and synthesis and evaluation are considered. Prerequisite: departmental consent. E 14 705 1 0910

734. Solar Engineering. (3). A study of solar energy with methods of conversion and collection and system analysis and economics. Emphasis on solar space and water heating systems. Prerequisite: ME 400 or departmental consent. E 14 734 0 0910

741. Nuclear Engineering. (3). Study of the fundamental aspects of nuclear physics and its application in energy production, including nuclear reaction, neutron interaction, reactor core physics, nuclear heat transfer and nuclear reactors. Prerequisites: ME 400 and Math 550. E 14 741 0 0910

744. Advanced Environmental Engineering. (3). A continuation of ME 544 with an emphasis on building energy systems related to the design and selection of heating, ventilating and air-conditioning equipment and distribution sub-systems. Prerequisite: ME 544 or departmental consent. E 14 744 0 0910

749. Kinematics and Dynamics of Machines. (3). Analysis and synthesis of mechanisms; force analysis of machines. Prerequisite: ME 439. E 14 749 0 0910

750. Special Topics in Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 750 0 0910

755. Intermediate Thermodynamics. (3). Laws of thermodynamics, introduction to statistical concepts of thermodynamics, thermodynamic properties, chemical thermodynamics, Maxwell's relations. Prerequisite: ME 502 or departmental consent. E 14 755 0 0910


Courses for Graduate Students Only

801. Boundary Layer Theory. (3). Development of the Navier-Stokes equation, laminar boundary layers, transition to turbulence, turbulent boundary layers and an introduction to homogeneous turbulence. Prerequisite: Math 651 or departmental consent. E 14 801 0 0910

845. Fracture. (3). Ductile and brittle fracture: phenomena and mechanisms, linear elastic fracture mechanics, transition temperature approaches, tests for fracture resistance and design methods. Prerequisite: departmental consent. E 14 845 0 0910

846. Fatigue and Wear. (3). Fatigue of metals and nonmetals: phenomena, fatigue testing procedures and design methods. Survey of wear problems in engineering. Prerequisite: departmental consent. E 14 846 0 0910

850. Special Topics in Mechanical Engineering. (3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 850 0 0910

851. Heat Transfer-Conviction. (3). Theory and measurement, Fourier's equation, steady and unsteady state with and without heat sources and sinks and numerical methods. Prerequisites: ME 622, Math 651 or departmental consent. E 14 851 0 0910

852. Heat Transfer-Convection. (3). Free and forced convection in laminar and turbulent flow. Analysis and synthesis of heat transfer equipment are included. Prerequisite: ME 622 or departmental consent. E 14 852 0 0910


854. Advanced Thermodynamics. (3). Statistical thermodynamics, Boltzmann, Bose-Einstein and Fermi-Dirac statistics, calculation of thermodynamic properties, elementary kinetic theory, introduction to irreversible thermodynamics. Prerequisite: ME 502 or departmental consent. E 14 854 0 0910

855. Computational Fluid Dynamics and Heat Transfer II. (3). Vector form of the Navier-Stokes equations and the energy equation. Generalized transformation of the flow equations to the computational domain. Numerical methods for inviscid flow equations, boundary layer type equations, "parabolized" Navier-Stokes equations and the Navier-Stokes equations. Prerequisite: ME 758 or equivalent. E 14 855 0 0910

860. Electromechanical Control Systems. (3). Description, analysis and design of electromechanical control systems, with an emphasis on actual devices. Prerequisite: ME 659 or departmental consent. E 14 860 0 0910

861. Similitude in Engineering. (2). Critical analysis of models and analogies as aids to engineering design. Prerequisite: departmental consent. E 14 861 0 0910

868. Rational Design Methods. (3). The principles of creativity, decision theory, modeling, optimization and reliability as applied to problems of engineering design. Prerequisite: departmental consent. E 14 868 0 0910

876. Thesis. (1-4). E 14 876 4 0910

878. Directed Studies. (1-4), Repeatable as approved in the Graduate School plan of study. The student must write a paper. Students selecting the directed study option to fulfill the degree requirement need also to take an oral examination on the study made. Prerequisite: departmental consent. E 14 878 4 0910

901. Advanced X-Ray Diffraction Theory. (3). The first part of this course concentrates on the fundamental X-ray diffraction theories, including dynamical theory of X-ray and anomalous absorption, with which a serious student in this field must be thoroughly familiar. The second part of this course emphasizes the general theory of X-ray diffraction in a concise and elegant form using Fourier transforms. General theory is then applied to various atomic structures, ideal crystals, imperfect crystals and amorphous bodies. Prerequisites: ME 750, Math 651. E 14 901 0 0910

976. PhD Dissertation. (1-6). Repeatable to a maximum of 36 hours. Prerequisite: admission to doctoral aspirant status. E 14 976 4 0910

990. Advanced Independent Study in Engineering. (1-6). Arranged individual, independent study in specialized content area. Repeatable toward the PhD degree. Prerequisites: advanced standing and instructor's consent. E 14 990 3 0910

* The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of lab.
College of Fine Arts

Rhoda-Gale Pollack, PhD, Dean
The College of Fine Arts is responsible for instruction and education, creative activity, scholarly inquiry, performance and practice in music, dance and visual arts. The School of Art and Design, the School of Music and the School of Performing Arts—Dance and Theatre—offer professional training programs at the undergraduate and graduate levels.

Students are offered a complete spectrum of artistic endeavors, whether they are interested in professional activities, teaching careers, graduate study or increased knowledge about the arts. Students have the opportunity to explore various art forms with an open mind, thus developing their ability to respond to changes, developments and challenges within the art world of the future. The college strives to develop the new techniques, historical research and information necessary to achieve these ends.

The School of Music is an accredited member of the National Association of Schools of Music and its requirements for entrance and graduation are in accordance with the association’s published regulations.

Degrees Offered

Undergraduate
The College of Fine Arts offers four undergraduate degrees: Bachelor of Fine Arts (BFA), Bachelor of Art Education (BAE), Bachelor of Music (BM) and Bachelor of Music Education (BME). Graduation requirements for each degree are listed in the descriptions of the appropriate division programs.

Graduate
The Graduate School offers a program leading to the Master of Fine Arts (MFA) with emphases in ceramics, painting, printmaking and sculpture; the Master of Arts (MA) in art education and communication/theatre; a Master of Music Education (MME) with emphases in elementary music, instrumental music, choral music and music in special education and a Master of Music (MM) with emphases in history-literature, performance, piano pedagogy and theory-composition.

For information concerning requirements for entrance and curricula, consult The Wichita State University Graduate Bulletin.

Special Academic Area

Cooperative Education
The College of Fine Arts participates in the University Cooperative Education program. The program is designed to provide relevant paid employment experiences that integrate and complement the students’ academic programs. Degree credit is awarded. Students are placed in a variety of positions including education and business settings in both music and art disciplines. For further information contact the fine arts coordinator in the Cooperative Education office.

Policies

Admission
All entering freshmen are enrolled in University College. Upon completing 24 semester hours of specified courses with a minimum grade point average of 2.000, students are eligible to enroll in the Schools of Art and Design, Music and Performing Arts.

Transfer students may enroll in the College of Fine Arts if their transcripts indicate they have completed a minimum of 24 semester hours with a minimum grade point average of 2.000 (C). Students with a grade average of at least 1.700, but less than 2.000, may petition for admittance. Transfer students who do not meet the minimum requirements of 24 semester hours and a grade point average of 2.000 are enrolled in University College.

Probation and Dismissal
Students are expected to make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

Students are required to maintain an overall grade point average of at least 2.000. Students enrolled in either the music education or art education programs must have a cumulative grade point average of 2.500 prior to enrolling in student teaching.

Students who do not achieve or maintain the required 2.000 grade point average will be placed (or continued) on probation at the conclusion of each semester in which their overall grade point average falls below 2.000. Students on probation are limited to a maximum of 12 credit hours per semester while on probation. Students failing to maintain a current average of 2.000 in each semester in which they are on probation will be dismissed from the University, unless they have not attempted 12 semester hours since the beginning of the probationary period.

Transfer students admitted on probation must complete at least 12 semester hours with a minimum grade point average of 2.000 and are eligible to enroll in the Schools of Art and Design, Music and Performing Arts. Transfer students admitted on probation will be dismissed from the University if their transcripts show a grade point average of 2.000 or below.

Degrees Offered

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The College of Fine Arts offers three undergraduate degrees: Bachelor of Fine Arts (BFA), Bachelor of Music (BM) and Bachelor of Music Education (BME). Graduation requirements for each degree are listed in the descriptions of the appropriate division programs.

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Students are expected to make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

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Transfer students admitted on probation must complete at least 12 semester hours with a minimum grade point average of 2.000 and are eligible to enroll in the Schools of Art and Design, Music and Performing Arts. Transfer students admitted on probation will be dismissed from the University if their transcripts show a grade point average of 2.000 or below.
that can be applied to a student's degree.

The school will accept the transfer of only one credit hour per semester of nonresidential studio work (such as extension or correspondence courses from accredited institutions), totaling no more than six hours of the last 30 or ten hours of the total number of hours required for graduation.

The University's general education requirements can be satisfied by all art history courses except Art Hist. 426.

The school controls all art work or essays submitted for credit by students and reserves the right to select certain pieces for its permanent collection.

All art materials, with the exception of certain nonexpendable equipment, must be furnished by the students.

Graduation Requirements

Bachelor of Fine Arts

The School of Art and Design offers a Bachelor of Fine Arts degree (BFA) in art history, graphic design and studio arts—ceramics, painting, printmaking and sculpture. In addition to the University's scholastic, residence and general education requirements (outlined in the Requirements for Graduation section), candidates for the BFA must complete the specific requirements of the appropriate department. Specific programs for each of the above areas of specialization are described under the appropriate department's heading in the following pages.

Bachelor of Art Education

In addition to meeting the University's scholastic residence requirements for graduation, candidates for the BAE must complete a minimum of 134 semester hours, with 42 hours in the General Education Program is described in detail in the Academic Information—Requirements for Graduation section in the beginning of the Catalog. Electives must be selected in consultation with an advisor.

The art education area fulfills both the University general education requirements for graduation and the Kansas certification requirements for teaching art at the secondary and elementary levels.

The specific requirements for the BAE are given in the Art Education section of the Catalog.

Departmental Requirements and Course Listings

Foundation

The following courses will be required of all undergraduate art major students effective the fall 1987 semester.

Lower-Division Courses

110Q. Foundation Visual Arts. (3). A general orientation to the visual arts including the studio arts, graphic arts, art historical—cultural study, and art education. Lectures and experiential modes of learning will be employed. Course studies the techniques, processes and approaches used in various art professions as well as methods of determining meaning and value as an audience to the works of arts professionals. F 14 110Q 0 0831

136. Foundation Design I. (3). An introduction to design for visual communication. A study of the elements of art and the principles of design relating to formal, Gestalt and conceptual organization of the two-dimensional surface. Areas of focus include elements of line, shape, space, texture and value. Instructional process includes lecture, critique and supervised studio practice. F 17 136 1 1009

137. Foundation Design II. (3). A continuation of Foundation Design I with an emphasis on the study of color including vocabulary, pigment mixing, color organization and a review of the psychological effects of color as used in visual communications. Instructional process includes lecture, critique and supervised studio practice. Prerequisite: Foundation Design I. F 17 137 1 1009

145. Foundation Drawing I. (3). Introduction to visual arts concepts, vocabulary, tools, materials, basic drawing skills and attitudes through the drawing experience. It will teach students perceptual skills and the ability to represent objects in space and organize them into a coherent pictorial statement along with technical and expressive competence with a limited range of media. Structured sketchbook assignments will be given. F 16 145 1 1002

146. Foundation Drawing II. (3). Reinforcement and elaboration of the concepts studied in Foundation Drawing I through introduction of abstraction, use of color, visualization and other strategies for manipulating imagery. Students will apply concepts to problems associated with composition, imaginative reconstructions and idea generation. Structured sketchbook assignments will be given. Prerequisite: Foundation Drawing I. F 16 146 1 1002

139. Foundation 3-D Design. (3). Lectures, research and studio methods on the evolutionary role of three-dimensional design in contemporary society utilizing a variety of combination of materials, techniques, forms and concepts. Emphasis also will be placed on learning to handle equipment and tools properly. F 16 139 1 1002

240. Foundation Life Drawing. (3). Introduction to drawing the human form with emphasis on critical inquiry and analytical observation. The study of skeletal and muscular structure is included. Students will develop an understanding of the structure of the figure and demonstrate a degree of facility in its representation from observation and from imagination. Structured sketchbook assignments will be given. Lab fee. Prerequisites: Foundation Drawing I and II. F 16 240 1 1002

Art Education

The art education area offers a professional program for students interested in teaching art. The art education structured program prepares majors to teach and supervise at various educational levels. All majors are required to specialize in a studio arts, graphic design or art history program.

Outline of Program

A total of 134 hours is required as distributed below.

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<th>Area</th>
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<tbody>
<tr>
<td>Art Curriculum</td>
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<td>General Education Program</td>
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</table>

Student Teaching

Admission into the student teaching semester requires senior standing (90 hours or 200 credit points); a minimum cumulative grade point average of 2.500 and 2.500 in art courses at the time of application for student teaching; a grade of C or better in English composition (Eng. 101 and 102 or its equivalent); a grade of C or better in oral communication; completion of instructional services and art education prerequisites; satisfactory physical examination; and recommendation by the art education program following a formal interview. Admission to teacher education is determined early in the students’ program (see College of Education—Admission to Teacher Education Programs). Students must apply for student teaching by midterm of the spring semester prior to the student teaching year. By the end of the first semester in the student teaching year, the student must have completed Art Ed. 516 and IS 433. Concurrent enrollment in Art Ed. 516 and IS 433 is recommended.

A survey course about exceptional children, reading for secondary students and a multicultural course are included in the teacher certification requirements. Departmental review of course content will be given for transfer of art education credits from other institutions.
Art Minor Outside the College of Fine Arts

Students in the College of Education who wish to minor in art need to complete 18 hours of art. These hours must be distributed as follows: Foundation 1100 and 145, Art Ed. 210 and 313; one elected studio course; and three hours of Art Hist. 121G or 122G. This sequence of courses does not constitute requirements for certification in art.

Lower-Division Courses

115. Human Experience and the Arts. (3). Telecourse. Sculpture, architecture, film, drama, music, literature and painting are surveyed. Each art form is examined from four perspectives: historical context, elements of the art, form/meaning and criticism/evaluation. The course contains 30 one-half-hour video programs which are coordinated and integrated with the text and study guide. Attendance at periodic Saturday sessions is required. F 14 115 0 0831

150. Art Workshop. (1-3). Repeatable for credit. (The area to be covered is determined at the time the course is offered.) F 14 150 2 0831

210. Visual Arts for the Child. (3). For students without previous art background who plan to teach in the elementary school classroom. Fundamental methods, materials and concepts used to develop art knowledge and skills in the elementary-age levels are studied. F 14 210 0 0831

211. Art Education in the Elementary School. (3). A study of philosophy, psychology and sensory growth of the elementary-aged student, with emphasis on the development of the art program for this level. Prerequisite: Art Ed. 210 or instructor's consent. F 14 211 0 0831

220. Art and the Young Child. (1-3). Study of the developmental stages of children's art-making, the relationship between art and cognitive growth, the role of the teacher, the significance of sensory experiences and aesthetic behavior. Emphasizes the potential for creative behavior as a natural means of a child responding to environmental stimuli. F 14 220 0 0831

281. Cooperative Education. (1-8). A course that allows students to participate in the Cooperative Education program. Offered Cr/NCr only. F 14 281 2 0831

Upper-Division Courses

302. Jewelry Design/Construction. (3). Jewelry design and construction with an emphasis on metal working processes (forging, forming, casting, sawing, cutting, filing, soldering) with subordinate emphasis on soft jewelry and ceramic processes applicable to jewelry. F 14 302 1 0831

311. Art Education Curriculum in the Elementary School. (3). A study of developmental characteristics of the elementary-age student and the art program with respect to materials, skills and knowledge content. F 14 311 0 0831

313. Fiber Exploration for the Classroom. (3). The course will focus on fiber experiences appropriate for the classroom at the intermediate or secondary level. Weaving, braiding and twisting techniques that result in a fabric or web will be explored on various kinds of looms. F 14 313 1 0831

413. Independent Study. (1-4). Direct study in art education not normally covered in other course work. Prerequisite: instructor's consent. F 14 413 0 0831

414. Art Education in the Secondary School. (3). A study of the philosophy, objectives and classroom procedures related to the teaching of art at the secondary level. F 14 414 0 0831

481. Cooperative Education. (1-8). A course that allows students to participate in the Cooperative Education program. Offered Cr/NCr only. F 14 481 2 0831

Courses for Graduate/Undergraduate Credit

510Q. Stimulating Creative Behavior. (3). Topics include theories of creativity, strategies for problem-finding and problem-solving, identifying various external and internal blocks to creativity, testing for creativity, the relationship of creativity, cognition and visual thinking, creative challenges and stimuli. Course emphasizes methods to elicit creative behavior. Repeatable once for credit. F 14 510Q 0 0831

5140. Aesthetic Inquiry. (3). The course will be an exploration of the nature of con­cepts relative to the visual arts. Students will be expected to write critical observations and interpretations in response to art work. Prerequisite: upper-division art major. F 14 5140 9 0831

515. Developing Visual Materials for Art Education. (3). A production laboratory that concentrates on the use of technological equipment for making multimedia experiences (films, slides, tapes, projector, etc.) for art education students. Students engage in constructing units of visual learning. F 14 515 1 0831

516. Art Education Practicum. (3). The development of an art curriculum materials for secondary levels. Students will enroll in this course the semester before student teaching. Prerequisite: concurrent enrollment in IS 433. F 14 516 0 0831

517. Student Teaching Seminar in Art. (1). The objective is to analyze problems encountered in the art classroom during student teaching. Concurrent enrollment in seven hours of student teaching courses is required. Prerequisite: Art Ed. 516 and departmental approval for student teaching. F 14 517 9 0831

518. Art for the Exceptional Child. (3). Follows regular art education principles with appropriate adaptations and teaching methods for exceptional children in school settings. Among the exceptionalities considered will be types of mental retardation; neurological impairment; and emotional, visual, auditory and physical handicaps. F 14 518 0 0831

702. Metal Processes for Jewelry Construction. (3). The emphasis in this course is on the selection of metal(s) and design, analysis and function of jewelry designed and produced by students and acknowledged craftsmen. Repeatable once for credit. Prerequisite: Art Ed. 212, 302 or instructor's consent. F 14 702 0 0831

710. Creative Behavior and Visual Thinking. (3). Identification and application of theories for creative and critical thinking. Emphasizes strategies for problem solving and visual thinking and procedures to implement those strategies. Student will identify an area for individual investigation. Repeatable once for credit. F 14 710 0 0831

711. Seminar in Art Education: Topic to be Announced. (1-3). Supervised study and research of contemporary issues in art education. Prerequisite: instructor's consent. F 14 711 9 0831

712. Development of Art Understanding in the Educational Program. (3). Readings, observation and evaluative techniques in the development of concepts and materials for art understanding. Repeatable once for credit. Prerequisite: instructor's consent. F 14 712 0 0831

713. Fiber and Fabric Processes. (1-3). Fiber processes and structuring in traditional and experimental processes in woven forms and other structural techniques using natural and man-made fibers. Repeatable once for credit. Prerequisite: instructor's consent. F 14 713 0 0831

715. Research Problems in Art Education. (3). Orientation in research methods, findings and designs related to the analysis of studies and current problems in art education. Repeatable once for credit. Prerequisite: instructor's consent. F 14 715 1 0831

728. Art and Early Childhood. (1-3). Emphasizes the cognitive and aesthetic domains of young children and develops the potential for creative and visually expressive behavior as a natural means of a child responding to environmental stimuli. F 14 728 0 0831

750. Art Workshop. (1-3). Repeatable for credit. (The area to be covered is determined at the time the course is offered.) F 14 750 2 0831

Courses for Graduate Students Only

815. Individual Research Problems in Art Education. (1-4). Directed independent study in an education not normally covered in other graduate course work. Repeatable for credit. Prerequisite: instructor's consent. F 14 815 4 0831

816-817. Thesis—Art Education. (1-3; 1-3). F 14 816 4 0831; F 14 817 4 0831

818-819. Terminal Project—Art Education. (1-3; 1-3). F 14 818 3 0831; F 14 819 3 0831

Art History

The art history area prepares students for activities related to the art of the past: criticism, both college- and secondary-level teaching and conservation. Students are exposed to a view of art from the earliest times to the present. The language of art, as well as the historical framework, is emphasized.

Requirements. A total of 124 hours is required for a major as distributed below.

Area

<table>
<thead>
<tr>
<th>Hrs.</th>
<th>Art Curriculum</th>
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### Foreign language  
- Elective: 13
- General Education Program: 37

### Model Program

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<tr>
<td>Course</td>
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<tr>
<td>Eng. 101 and 102, College English I and II</td>
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<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
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<tr>
<td>Art Hist. 121G, Survey of Western Art: Paleolithic Through Early Christian</td>
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<td>Art Hist. 122G, Survey of Western Art: Renaissance and Baroque</td>
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<td>Art Hist. 426 Seminar: Techniques of Art History</td>
</tr>
<tr>
<td>Elective</td>
</tr>
<tr>
<td>Electives</td>
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</tbody>
</table>

Lower-Division Courses

| 121G. Survey of Western Art: Paleolithic Through Early Christian. (3). A historical survey of art from prehistoric origins to the Middle Ages. F 15 121G 0 1003 |
| 122G. Survey of Western Art: Renaissance and Baroque. (3). A historical survey of art from the Renaissance to the 18th century. F 15 122G 0 1003 |

| 123. Survey of Western Art: Medieval. (3). A historical survey of late Christian and Gothic art and architecture from the 5th through 14th centuries. F 15 123 0 1003 |
| 124. Survey of Western Art: Modern. (3). An introduction to art through the study of a selected group of art objects produced in Europe and America from the 18th century to the present. F 15 124 0 1003 |

| 223. Northern Renaissance. (3). A study of Northern Renaissance art and architecture, including work in Italy and France from the 14th to 16th centuries. F 15 223 0 1003 |
| 281. Cooperative Education. (1-8). A course that allows students to participate in the Cooperative Education program. Offered Cr/NCr only. F 15 281 2 1003 |

Upper-Division Courses

| 322. Medieval Art I. (3). A study of Medieval art from the 12th to the 16th centuries. Emphasis is on how art history content varies but individual areas are not repeatable for credit. F 15 322 0 1003 |
| 323. Medieval Art II. (3). A study of Medieval art from the 12th to the 16th centuries. Emphasis is on how art history content varies but individual areas are not repeatable for credit. F 15 323 0 1003 |

| 324. Northern Baroque. (3). A study of Northern Baroque art from the 17th to the 18th centuries. Emphasis is on how art history content varies but individual areas are not repeatable for credit. F 15 324 0 1003 |
| 325. Art of the Ancient Near East. (3). A study of ancient Near Eastern art from the 3rd millennium B.C. to the 7th century B.C. Emphasis is on how art history content varies but individual areas are not repeatable for credit. F 15 325 0 1003 |

| 421Q. Art of Ancient Greece (3). A study of art from the Archaic to Hellenistic periods. The course covers art history, architecture, sculpture, and painting with emphasis on how art history content varies but individual areas are not repeatable for credit. F 15 421Q 0 1003 |
| 422. Art of Ancient Rome. (3). A study of art from the Roman Republic to the fall of the Roman Empire. Emphasis is on how art history content varies but individual areas are not repeatable for credit. F 15 422 0 1003 |

| 426. Seminar: Techniques of Art History. (3). A seminar that allows students to participate in the Cooperative Education program. Offered Cr/NCr only. F 15 426 2 1003 |

Courses for Graduate/Undergraduate Credit

| 520. Seminar in Art History. (3). A seminar that allows students to participate in the Cooperative Education program. Offered Cr/NCr only. F 15 520 2 1003 |

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R: 2L means two hours of lecture and two hours of lab.
Graphic Design—Commercial Art

The graphic design area offers a professional program for students interested in a career in the field of visual communication. The courses emphasize conceptual and practical problem solving in various media—photography, typography, design and drawing—to develop design skills for communication.

Requirements. A minimum total of 126 hours is required for a major in University College. To enter the graphic design department, the student must have a minimum overall grade point average of 2.00 and have completed the graphic design foundation courses with an average grade of 3.00. Transfer students who have earned fewer than nine semester credit hours in graphic design foundation courses will be enrolled in appropriate foundation courses.

Students who wish to transfer nine or more semester credit hours in art and design studio courses are required to:

1. Submit transcripts of all previous college enrollments.
2. Submit a portfolio of examples of their work to the chairperson of the graphic design department for faculty evaluation prior to enrollment. The portfolio should represent all college-level studio experiences and must contain original examples. Three-dimensional work should be submitted as slides. Part but not all of the two-dimensional work can be in slide form.

Deadlines for the receipt of transcripts and portfolios are June 20 for the fall semester, December 1 for the spring semester and May 1 for the Summer Session. Personal interviews with the department chairperson are suggested.

Model Program

Freshman

Course | Hrs.
--- | ---
Eng. 101 and 102 | 6
Speech 111 or 112 | 3
Math 109, 110, 111, 112 or 211 | 3
Art F 110Q, Introduction to Art and Design | 3
Art F 136 and 137, Foundation Design | 3
Art GO 233, Basic Typography | 3
Art GO 234, Layout and Production Techniques | 3
Art GO 235, Design Production | 3
Art GO 240, Foundation Life Drawing | 3
Art AH 124, Art History Survey-Modern | 3

Sophomore

Course | Hrs.
--- | ---
Art F 189, Foundation 3-D Design | 3
Art GD 233, Typography | 3
Art GD 234, Layout and Production | 3
Art F 121G, Survey of Western Art: Paleolithic through Early Christian | 3
Art F 122G, Survey of Western Art: Renaissance and Baroque | 3
Art F 240, Foundation Life Drawing | 3
Art GD 239, Design Structure | 3
Art Electives | 9

Junior

Course | Hrs.
--- | ---
GD 335 Graphic Design Studio I | 3
GD 334, Graphic Design—Production | 3
GD 330 and 331, Design Media Studio I and II | 6
I. Tech. 590, Offset Lithography | 3
Graphic Design Electives (300-700 level) | 6
General Education | 12

Senior

Course | Hrs.
--- | ---
GD 430, Design Media Studio III | 3
Lower-Division Courses

231. Basic Photography (Motion Picture). (3). Introductory course in film production. Lab fee. Nonmajors may be required to furnish their own cameras. F 17 231 1 1009


234. Layout and Production Techniques. (3). Introduction to advertising theory and visual communication. Fundamentals of respective functions of purpose, copy, art, plans and media in advertising. A study is made of studio practices and art production problems. Prerequisites: GD 233. F 17 234 1 1009

236. Drawing for Commercial Art. (3). Directed practice in drawing in various media, with emphasis on its application to commercial art. Prerequisite: graphic design major or instructor's consent. F 17 236 1 1009

237. Drawing for Commercial Art II. (3). Directed practice in drawing the figure for editorial and fashion illustration. Prerequisite: GD 236. F 17 237 1 1009

239. Design Structure. (3). Application of three-dimensional design as a form of visual communication with emphasis on drawing systems, construction techniques, graphic arts processes and the manipulation of paper as a primary medium. Prerequisites: GD 136 and SA 189. F 17 239 1 1009

281. Cooperative Education. (1-8). A course that allows students to participate in the Cooperative Education program. Graded Cr/NCr only. F 17 281 2 1009

Upper-Division Courses

300. Advanced Typography. (3). An investigation of typography and its relationship and application to visual communication. Prerequisites: GD 233 and 234. F 17 300 1 1009

330. Design Media Studio I. (3). Introductory course in still photography with a design emphasis. Lab fee. Nonmajors may be required to furnish their own cameras. Prerequisites: Foundation 139 or instructor's consent. F 17 330 1 1009

331. Design Media Studio II. (3). Introductory course in film theory and video with a design emphasis. Lab fee. Nonmajors may be required to furnish their own cameras. Prerequisites: GD 137 and 330 or instructor's consent. F 17 331 1 1009

333. Fashion Illustration. (3). Fashion drawings of costumed models for newspaper and magazine layout. Merchandising and fashion elements are analyzed for black and white illustration. Repeatable for credit. Prerequisites: GD 237. F 17 333 1 1009

334. Graphic Design—Production. (3). Development of skills necessary to execute finished art for various printing processes. Prerequisites: GD 233, 234. F 17 334 1 1009

335. Graphic Design Studio I. (3). Development of skills in the generation of visual concepts and techniques for rendering color layouts in various media. Discussion of studio practice and client/vendor relationships. Repeatable for credit. Prerequisites: GD 233, 234 and junior standing in graphic design. F 17 335 1 1009

337. Advertising Illustration. (3). Development of skills in pictorial graphics and their application to the needs of advertising and product illustration with an emphasis in black and white media. Media and technique suitable for newspaper/magazine reproduction will be examined. Repeatable for credit. Prerequisites: completion of foundation program. F 17 337 1 1009

339. Advanced Design Structure. (3). Advanced study of three-dimensional design concepts as applicable to visual communication. Lectures, class work and projects will deal with areas of model-making, package design, signage systems and exhibition design. Repeatable for credit. Prerequisites: GD 233 and 239. F 17 339 1 1009

430. Design Media Studio III. (3). Application of design media in the applied arts and television studio. Repeatable for credit. Prerequisites: GD 330, 331 and instructor's consent. F 17 430 1 1009

431. Design Media Topics. (3). Advanced study of photography, cinematography or television with emphasis. Repeatable for credit. Prerequisites: GD 330, 331 or instructor's consent. F 17 431 1 1009

434. Graphic Design Intern. (3). On-the-job internship in an art studio of advertising agency. Instruction time is divided between arrangement, observation and apprenticeship and weekly seminar period. Written reports of individual research are required in addition to a portfolio of samples produced as an intern. Repeatable for credit. Grade for the course is Cr/NCr. Prerequisites: interview, portfolio and junior status. F 17 434 2 1009

435. Graphic Design Studio II. (3). A programmatic approach to problem solving. Topics include concept, layout approaches for various projects and skill development for producing portfolio quality work. Prerequisites: GD 334, 335 and senior standing in graphic design. F 17 435 1 1009

437. Advanced Advertising Illustration. (3). Concentration in editorial illustration with an emphasis on design, art, and character problem solving. A variety of color media and techniques will be explored. Repeatable for credit. Prerequisite: GD 337. F 17 437 1 1009

438. Color and Design. (3). A study of color use in communication design and printing reproduction. Prerequisite: GD 234. F 17 438 1 1009

445. Senior Terminal Project. (1-3). Supervised independent study. Students in their final two semesters must present a plan of study for and complete a design project. Project and plan of study must be approved by the graphic design faculty. Repeatable for credit. Prerequisite: senior standing in graphic design. F 17 445 3 1009

491. Cooperative Education. (1-8). A course that allows students to participate in the Cooperative Education program. Grade for the course is Cr/NCr. F 17 491 2 1009

493. Book Design and Production. (3). A laboratory course encompassing all facets of the book. Topics of study include: design, type composition, proofreading, illustration, manufacturing, binding materials (cloth, leather, paper and boards), distribution, copyright, royalties and remaining. Students will be responsible for the development and publication of a limited edition book. Prerequisites: GD 334, GD 337 or consent of instructor. F 17 493 1 1009

Course for Graduate/Undergraduate Credit

530. Seminar in Graphic Design. (3). Supervised study and research. Weekly consultation and reports are required. Repeatable for credit. Prerequisite: departmental consent. F 17 530 9 1009

Studio Arts

The studio arts area offers programs in ceramics, painting, printmaking, and sculpture for students who wish to specialize in the visual arts. Students from the Fairmount College of Liberal Arts and Sciences who wish to major in studio arts must complete 39 hours of art. These hours must include Art Hist. 121G, 122G, nine hours elected from art history courses and 24 hours elected from studio courses. Liberal arts students wishing to minor in studio arts must complete 21 hours of art, including Art Hist. 121G, 122G and 15 hours of electives.

General

Course for Graduate/Undergraduate Credit

500. Topics in Visual Arts and Design. (3). A coverage of topics of special interest and significance to faculty and students in Studio Art and Design. Content varies in subject matter from one semester to another. Repeatable for credit with departmental consent. F 16 500 1 1002

Ceramics

Through their course work, ceramics majors are exposed to their tools: building, throwing, clays and glazes. Students investigate problems of glaze formulation, firing the kiln and characteristics of clays and production.

Requirements. A total of 124 hours is required for the major as distributed below.

<table>
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<tr>
<th>Area</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Art Curriculum</td>
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<tr>
<td>Foundation</td>
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<td>Art History</td>
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<tr>
<td>Ceramics</td>
<td>27</td>
</tr>
<tr>
<td>Drawing</td>
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<tr>
<td>Sculpture</td>
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</tr>
<tr>
<td>Painting</td>
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<tr>
<td>Printmaking</td>
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<td>General Education Program</td>
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Model Program

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<tbody>
<tr>
<td>General education</td>
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</table>
A total of 124 hours is required for the major as distributed below.

**Area** | **Hrs.**
---|---
Art Curriculum | 81
Foundation | 9
Art history electives | 6
Painting | 27
Drawing | 15
Printmaking | 6
Ceramics | 3
Sculpture | 3
Art electives | 12
General Education Program | 42

**Course**

**Graduate/Undergraduate Credit**

570. Advanced Ceramics Studio. (3). Lab fee. Advanced studio problems involving forming methods, glaze formulation and firing procedures. Lecture periods are held involving advanced studies of ceramic materials and glaze formulation. Repeatable for credit. Prerequisite: SA 370. F 16 570 1 1009

574. Advanced Study of Kiln Methods. (3). Advanced study of kiln design and construction with research in the area of refractory materials. Reading assignments, notebook and laboratory work are required. Prerequisite: SA 374. F 16 574 1 1009

774. Advanced Study of Kiln Methods. (3). Advanced study of kiln design and construction with research in the area of refractory materials, Prerequisite: instructor's consent. F 16 574 1 1009

876. Advanced Study of Ceramic Glazes. (3). The study of glaze formulation and the color and crystalline effects of oxides on base glazes. Notebook, advanced formulation records and laboratory work required. Prerequisite: SA 875. F 16 876 4 1009

878-879. Terminal Project—Ceramics. (2, 3 or 5; 3 or 5). F 16 878 4 1009; F 16 879 4 1009

**Requirements.** A total of 124 hours is required for the major as distributed below.

**Area** | **Hrs.**
---|---
Art Curriculum | 81
Foundation | 9
Art history electives | 6
Painting | 27
Drawing | 15
Printmaking | 6
Ceramics | 3
Sculpture | 3
Art electives | 12
General Education Program | 42

**Model Program**

**Freshman**

Course | **Hrs.**
---|---
General education | 18
SA Foundation (SA 145, 146, 189) | 9
SA 260, Printmaking | 3
SA 250, Oil Painting | 3

**Sophomore**

Course | **Hrs.**
---|---
General education | 12
SA 240, Life Drawing | 6
SA 251, Watercolor Painting | 3
SA 272, Handbuilding with Clay | 3
SA 350, Painting Studio | 6

**Junior**

Course | **Hrs.**
---|---
General education | 12
SA 240, Life Drawing | 3
SA 345, Intermediate Drawing | 3
SA 570, Advanced Ceramics Studio | 6
Art electives | 15

**Lower-Division Courses**

171. Beginning Ceramics. (3). This course is an introduction to throwing. The aspects of forming, trimming, glazing and firing will be addressed. There will be an emphasis on acquiring the skills to make a variety of forms from pitchers to covered jars. There will be group critiques and slides shown periodical-ly. No credit given toward a major in studio arts. F 16 171 1 1009

270. Introduction to Ceramics Studio. (3). Experience in handbuilding, wheel throwing, glazing methods. Lecture periods involve general knowledge of clays, glazes, kilns and historical and contemporary pottery. Repeatable for credit. F 16 270 1 1009

272. Handbuilding with Clay. (3). Various handbuilding techniques will be used in the context of the vessels, the figure and architecture or wall reliefs. The creative use of clay will be emphasized to make a personal statement. Various surface treatments and firing techniques will be explored. Issues of content and one's ideas will be emphasized. Required for upper-level courses. Prerequisites: SA 189 and 270, or departmental consent for nonmajors. F 16 272 1 1009

275. Study of Ceramic Materials I. (3). Lab fee. Lectures and research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Prerequisites: SA 275 and 370. F 16 575 0 1009

277. Advanced Study of Ceramic Glazes I. (3). Lab fee. The study of glaze formulation and the color and crystalline effects of oxides on base glazes. Notebook, formulation records and laboratory work required. Prerequisite: SA 575. F 16 576 1 1009

770. Study of Ceramic Glazes II. (3). Lab fee. The study of glaze formulation and the color and crystalline effects of oxides on base glazes. No credit given toward a major in studio arts, F 16 770 1 1009

774. Advanced Study of Kiln Methods. (3). Advanced study of kiln design and construction with research in the area of refractory materials. Prerequisite: instructor's consent. F 16 774 1 1009

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

870. Special Problems in Ceramics. (1-5). Research in advanced problems in ceramics. Repeatable for credit. F 16 870 3 1009

875. Advanced Research of Ceramic Materials. (3). Lectures and advanced research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Notebook and

**Upper-Division Courses**

370. Ceramics Studio. (3). This course is designed to expose students to new possibilities in throwing or handbuilding. Throwers will confront problems of leopards, two-foot vases and platters; handbuilders will pursue a personal direction. Both will have a required slip casting assignment. Emphasis will be on striving to make a personal statement in clay. There will also be an exchange of ideas to help facilitate one's personal statement. The course is designed to be taken twice and is repeatable for credit. Prerequisites: completion of foundation program and SA 270. F 16 370 1 1009

374. Kiln Methods. (3). The study of kiln design and construction with research in the area of refractory materials. Reading assignments, notebook and laboratory research are included. Prerequisites: completion of foundation program and SA 370. F 16 374 1 1009

375. Study of Ceramic Materials II. (3). Lab fee. Lectures and research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Prerequisites: SA 275 and 370. F 16 575 0 1009

575. Study of Ceramic Glazes II. (3). Lab fee. The study of glaze formulation and the color and crystalline effects of oxides on base glazes. No credit given toward a major in studio arts, F 16 575 0 1009

578. Independent Study in Ceramics. (1-3). A professional emphasis on technical or aesthetic research in the ceramics field. Available only for the advanced ceramics student with consent of instructor. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent. F 16 578 0 1009

574. Advanced Study of Kiln Methods. (3). Advanced study of kiln design and construction with research in the area of refractory materials. Prerequisite: departmental consent. F 16 574 1 1009

874. Advanced Study of Kiln Methods. (3). Advanced study of kiln design and construction with research in the area of refractory materials. Prerequisite: instructor's consent. F 16 874 1 1009

875. Advanced Research of Ceramic Materials. (3). Lectures and advanced research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Notebook and
Drawing

Drawing is the attendant discipline of the four major programs of the studio arts area—painting, printmaking, sculpture and ceramics—as well as the areas of graphic design and art education.

Lower-Division Courses

145. Basic Drawing I. (3). Basic Drawing I focuses on the perception and the representation of space, light, forms and their proportions and surface topography. The course also deals with media techniques, eye-hand coordination and perspective. F 16 145 1 1002

146. Drawing II. (3). Drawing skills and knowledge acquired in SA 145 will be applied to projects. The course will focus on processes and individual development and the use of media, design and composition, and basic color theory and usage. Both nonobjective and objective imagery will be explored, including drawing from the figure. Prerequisite: SA 145. F 16 146 1 1002

240. Life Drawing. (3). Lab fee. Drawing from life and emphasis on figure construction. Anatomy sketchbooks and/or portfolios are required. Repeatable once for credit. Prerequisite: SA 145. F 16 240 1 1002

Upper-Division Courses

340. Life Drawing Studio. (3). Lab fee. Emphasis on individual development, figurative observation and interpretation. Repeatable for credit. Prerequisite: completion of foundation program. F 16 340 1 1002

345. Intermediate Drawing. (3). Drawing projects, nonfigurative. Included are problems of style, suites of related works and history of drawing techniques and materials. Repeatable once for credit. Prerequisite: completion of foundation program. F 16 345 1 1002

Courses for Graduate/Undergraduate Credit

546. Advanced Drawing Studio. (1-6). Drawing with a variety of media. Graphic problems relative to individual technical and aesthetic development are used. Critiques are given. Repeatable for credit. Prerequisites: SA 340 and 345. F 16 546 1 1002

549. Independent Study in Drawing. (3). A professional emphasis on technical or aesthetic research in the drawing area. Available only for the advanced drawing student with consent of instructor. Statement of intent must be submitted for faculty approval before registration. Prerequisite: SA 340 and instructor’s consent. F 16 549 1 1009

749. Independent Study in Drawing. (3). A professional emphasis on technical or aesthetic research in drawing. Prerequisites: graduate status and instructor’s consent. F 16 749 1 1009

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

840. Special Problems in Drawing. (1 or 3). Drawing from life. Sketchbooks and/or portfolio required. Repeatable for credit. F 16 840 3 1002

845. Special Problems in Drawing. (1-3). Advanced drawing in various media with emphasis on independent work and the development of personal expression. Repeatable for credit. F 16 845 3 1002

Painting

Lower-Division Courses

250. Oil Painting. (3). An introduction to oil painting, emphasizing studio practices, fundamental principles and techniques. Prerequisite: SA 145, FA 136 and 137, or departmental consent for nonmajors. F 16 250 1 1002

251. Watercolor Painting. (3). An introduction to transparent watercolor painting. Sketchbooks and/or portfolio required. Prerequisite: SA 145, FA 136 and 137, or departmental consent for nonmajors. F 16 251 1 1002

252. Acrylic Painting. (3). An introduction to acrylic painting on various supports, such as canvas, masonite and paper. Prerequisite: SA 145, FA 136 and 137, or departmental consent for nonmajors. F 16 252 1 1002

Upper-Division Course

350. Painting Studio. (3). Emphasis on individual development, personal interpretation and creativity. Repeatable for credit. Prerequisites: completion of foundation program and SA 250 and 251 or 252. F 16 350 1 1002

Courses for Graduate/Undergraduate Credit

550. Advanced Painting Studio. (1-6). Designed for the professionally oriented student. Emphasis is on independent study. Repeatable for credit. Prerequisites: four semesters of SA 250 and interview with instructor. F 16 550 1 1002

551. Advanced Watercolor Studio. (3). Sketchbooks and/or portfolio required. Prerequisites: completion of foundation program and SA 251. F 16 551 1 1002

553. Independent Study in Painting. (3). A professional emphasis on technical or aesthetic research in the painting area. Available only for the advanced painting student with consent of instructor. Statement of Intent must be submitted for faculty approval before registration. Prerequisite: departmental consent. F 16 553 1 1009

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

850. Special Problems in Painting. (1-5). Professional and experimental painting with emphasis on the development of maturity, ideas, independent thinking and personal expression. Mediums include oil, watercolor and synthetic media. Repeatable for credit with the consent of the drawing/painting faculty. F 16 850 3 1002

858-859. Terminal Project—Painting. (3 or 5; 3 or 5). F 16 858 4 1002; F 16 859 4 1002

Printmaking

The printmaking program gives students a broad base of experience in printmaking. Students encounter two primary disciplines, intaglio and lithographic techniques. Supplemented these areas are relief, collagraph, serigraph and combined techniques in both black and white and color. Emphasis is placed upon creativity and students are encouraged to investigate new or traditional methods.

Requirements. A total of 124 hours is required for the major as distributed below:

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Curriculum</td>
<td>81</td>
</tr>
<tr>
<td>Foundation</td>
<td>9</td>
</tr>
<tr>
<td>Art history electives</td>
<td>6</td>
</tr>
<tr>
<td>Printmaking</td>
<td>24</td>
</tr>
<tr>
<td>Drawing</td>
<td>12</td>
</tr>
<tr>
<td>Painting</td>
<td>6</td>
</tr>
<tr>
<td>Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>Art electives</td>
<td>18</td>
</tr>
<tr>
<td>General Education Program</td>
<td>42</td>
</tr>
</tbody>
</table>

Model Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>18</td>
</tr>
<tr>
<td>SA Foundation (SA 145, 146, 189)</td>
<td>9</td>
</tr>
<tr>
<td>SA 260, Printmaking I</td>
<td>3</td>
</tr>
<tr>
<td>SA 250, Oil Painting</td>
<td>3</td>
</tr>
</tbody>
</table>

Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>12</td>
</tr>
<tr>
<td>SA 240, Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>SA 251, Watercolor Painting</td>
<td>3</td>
</tr>
<tr>
<td>SA 262, Printmaking II</td>
<td>6</td>
</tr>
<tr>
<td>SA 280, Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>SA 364, Printmaking III</td>
<td>3</td>
</tr>
</tbody>
</table>

Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>12</td>
</tr>
<tr>
<td>SA 240, Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>SA 272, Handbuilding with Clay</td>
<td>3</td>
</tr>
<tr>
<td>SA 340, Life Drawing Studio</td>
<td>3</td>
</tr>
<tr>
<td>SA 364, Printmaking III</td>
<td>3</td>
</tr>
<tr>
<td>SA 561, Advanced Printmaking Studio</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
</tbody>
</table>
Courses for Graduate/Undergraduate Credit

560. Advanced Printmaking Studio—Intaglio, (1-3). Intaglio, collagraph and mixed techniques. For the student interested in professional printmaking, the course offers specialization in color printing or black and white. Repeatable for credit. Prerequisites: SA 260 and 364. F 16 560 1 1002

561. Advanced Printmaking Studio—Lithography, (1-3). Lithography, black and white. For the student interested in professional printmaking, the course offers specialization in color printing. Repeatable for credit. Prerequisites: SA 260, 262 and 364. F 16 561 1 1002

565. Independent Study in Printmaking, (3). A professional emphasis on technical and aesthetic research in the printmaking area. Available only for the advanced printmaking student with consent of instructor. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent. F 16 565 1 1009

755. The Techniques and Materials of Printmaking, (3). Lecture, assigned reading and reports on the tools, materials, methods and origins of basic printmaking techniques, including woodcut, relief, intaglio, lithograph, collagraph and color printing. Special art research project required in addition to assigned reading and reports. Prerequisite: six hours of printmaking. F 16 755 0 1002

Courses for Graduate Students Only

800. Seminar in Art Topics, (3). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

560. Special Problems in Printmaking—Intaglio, (1, 3 or 5). Advanced printmaking on an individual basis. Encouragement is given to investigating combined with a craftsman-like approach. Techniques include all intaglio, relief and combined methods, black and white and color. Repeatable for credit. F 16 862 3 1002

562 & 563. Special Problems in Printmaking—Lithography, (1, 3 or 5 or 3 or 5). Advanced printmaking on an individual basis. Encouragement is given to investigation, combined with a craftsman-like approach. Included are lithography and allied techniques, black and white and color. Repeatable for credit. F 16 862 3 1002 & F 16 863 3 1002

688-899. Terminal Project—Printmaking, (3 or 5; 3 or 5). F 16 688 4 1002; F 16 689 4 1002

Sculture

The sculpture program provides students with a solid grounding in basic techniques and materials and exposes them to the past and present directions in sculpture. A professional attitude is emphasized, with traditional and experimental methods and media being explored.

Requirements. A total of 124 hours is required for the major as distributed below:

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Curriculum</td>
<td>81</td>
</tr>
<tr>
<td>Art history electives</td>
<td>6</td>
</tr>
<tr>
<td>Foundation</td>
<td>9</td>
</tr>
<tr>
<td>Sculpture</td>
<td>24</td>
</tr>
<tr>
<td>Drawing</td>
<td>12</td>
</tr>
<tr>
<td>Ceramics</td>
<td>6</td>
</tr>
<tr>
<td>Painting</td>
<td>3</td>
</tr>
<tr>
<td>Printmaking</td>
<td>6</td>
</tr>
<tr>
<td>Art electives</td>
<td>15</td>
</tr>
<tr>
<td>General Education Program</td>
<td>42</td>
</tr>
</tbody>
</table>

Lower-Division Course

280. Sculpture, (3). An introduction to sculptural techniques in welded steel, assemblage, kinetics and optics. Prerequisite: SA 145 and 189. F 16 280 1 1002

Upper-Division Courses

380. Sculpture Studio, (1-3). Special emphasis on the main approaches to sculpture. Stress is placed on the form, concept and construction of sculpture. Carving techniques in wood, stone and/or plastic are included, as are construction and assemblage techniques selected from wood, plastic, metal (welded, brazed, riveted, etc.) and/or combined materials. Repeatable once for credit. Prerequisites: completion of foundation program and SA 280. F 16 380 1 1002

381. Cast Sculpture Studio, (3). Casting techniques for bronze and aluminum sculpture. Plaster investment, CO₂ set sand, foam vaporization and vitiﬁed shell molds are used to develop individual and unique approaches to cast sculpture. Prerequisites: completion of foundation program and SA 280. F 16 381 1 1002

Courses for Graduate/Undergraduate Credit

580. Advanced Sculpture Studio, (1-3). Sculpture in any medium, with an empha-
sis on individual development and creativity. Repeatable for credit. Prerequisite: SA 380. F 16 380 1 1002

585. Independent Study in Sculpture. (3). A professional emphasis on technical or aesthetic research in the sculpture area. Available only for the advanced sculpture student with consent of instructor. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent. F 16 385 1 1009

785. Independent Study in Sculpture. (3). A professional emphasis on technical or aesthetic research in sculpture. Prerequisite: instructor's consent. F 16 785 1 1009

Courses for Graduate Students Only

800. Seminar in Art Topics. (1, 3 or 5). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

880. Special Problems in Sculpture. (3 or 5). Advanced sculpture with emphasis on experimentation and high quality work on an individual basis. Special projects in casting, architectural sculpture, mixed media or new materials and techniques are stressed. Repeatable for credit. F 16 880 3 1002

888-889. Terminal Project—Sculpture. (3 or 5; 3 or 5). F 16 888 4 1002. F 16 889 4 1002

School of Music

The School of Music, which includes curriculum areas of music education, musicology/composition, keyboard, strings, voice and winds/percussion, offers courses, programs and curricula designed to train and educate serious music students who are planning careers in the music profession. In addition, the school's offerings allow students in other colleges to gain an understanding of music as a humanistic study. Recitals by students, faculty and guest artists augment the overall community programs in the fine arts.

Students in the School of Music enjoy the use of extensive facilities in the Duerksen Fine Arts Center, which includes the Lewie and Selma Miller Concert Hall. In addition, Wiedermann Hall, constructed in 1986, houses the first Marcussen organ in North America.

Policies

Proficiency Examinations

Students eligible for University enrollment may enter a music degree program. However, majors in music must demonstrate their performance ability on a minimum of one instrument or in voice. After their initial registration, students have their proficiency judged by their major professor; thereafter, they must perform for a faculty jury each semester to determine their proficiency level and progress. Semester proficiency cards, on which progress is recorded, are maintained for each student.

All music majors must pass a piano proficiency examination. Entering students majoring in music whose background indicates that they are competent in the area of piano may pass the requirement by special examination. If students pass the examination, they may elect other interest areas or additional private study in piano courses designed for the nonpiano major. Students who have not satisfied all piano proficiency requirements must enroll in class piano until they meet those requirements. Transfer students who submit proof of the completion of a comparable piano proficiency examination by official transcript or letter from their former dean are exempt from this requirement.

All proficiency examinations must be passed before students are allowed to student teach.

Applied Music

Instruction is given in applied media to develop musicianship, performance skills and reading knowledge of music literature. Specific requirements for each level are set by the individual applied areas.

For one semester hour of credit, music majors studying secondary instruments receive a one-half-hour lesson each week with a minimum of five hours of practice required per week.

For two semester hours of credit, (majors and special music students only), students receive either (1) a one-half-hour private lesson each week and a one-hour class each week or (2) a one-hour lesson per week or other equivalent arrangements at the option of the instructor. Students are expected to practice a minimum of ten hours each week.

Students other than majors pursuing a music degree must take two semester hour enrollments in appropriate nonmajor categories (see Schedule of Courses). This will provide a 30-minute lesson per week.

For four semester hours of credit, (performance majors and special music students only), students receive two one-half-hour lessons and a one-hour class lesson each week or other equivalent arrangements at the option of the instructor. Students are expected to practice a minimum of 20 hours per week.

Students receive academic credit for applied music instruction only when they take instruction on the University campus offered by approved music faculty. Students wishing to drop an applied lesson registration must inform the instructor in person and secure his/her signature on the drop form before approval may be given by the college office.

Applied music students may enroll in the following classifications: freshmen and sophomores, AM 231 and 232; juniors and seniors, AM 431, 432, 434; and graduates, AM 731, 732 and 734. These applied music courses are repeatable for credit.

Prior to graduation all music majors must achieve a minimum degree of performance proficiency, which is determined by the faculty according to each student's degree program. In addition, students may be required to pass an examination on materials in their chief performing medium.

Recitals

All music majors are required to enroll in five semesters of recital. Students fulfill four of these semesters by enrolling in Mus. Perf. 050. Recital, and attending a minimum of 14 specified recitals and concerts sponsored by the School of Music. The students' performance of the senior recital fulfills their fifth semester recital requirement; they must be enrolled in Recital (Mus. Perf. 050 for BME and BM theory-composition majors or Mus. Perf. 400 for BM performance majors) during that semester.

All students are required to declare a major in music prior to graduation. The decision as to whether the performance will be jury or public is made by an examining committee. Students present to the examining committee a projected senior recital program and the examining committee determines: (1) the suitability of the projected program; (2) the capability of the student to perform the program publicly; and (3) whether or not the program should be performed before the faculty jury.

Further recital specifications are found under graduation requirements for Bachelor of Music in Theory-Composition.

No graduating senior may prepare or perform the graduation recital without the guidance of a School of Music faculty member. In the event the required applied music credit hours have been earned prior to the recital presentation, students are expected to continue to elect the applied major through the preparation for and the performance of the recital.
Graduation Requirements

Bachelor of Music Requirements

Students receiving the BM choose either a performance medium (piano, organ, voice, strings, wind or percussion) or theory-composition as their major area of concentration.

The general graduation requirements of the University must be met as described in the Catalog under Academic Information—Requirements for Graduation. In addition, certain music requirements must be met for the different areas in the School of Music.

Bachelor of Music in Theory-Composition

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>20</td>
</tr>
<tr>
<td>Chief performing medium (piano, organ)</td>
<td>16</td>
</tr>
<tr>
<td>Chief performing medium (nonkeyboard)</td>
<td>8</td>
</tr>
<tr>
<td>Keyboard performing medium</td>
<td>8</td>
</tr>
<tr>
<td>Theory and Composition</td>
<td>40</td>
</tr>
<tr>
<td>Mus.-Comp. 113Q, 334Q, 335Q and two hours of upper-division electives in music history or literature</td>
<td>4</td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 217 or 218; 651 or 691</td>
<td>7</td>
</tr>
<tr>
<td>Electives (music or nonmusic courses)</td>
<td>7</td>
</tr>
<tr>
<td>Recital attendance (four semesters plus senior recital)</td>
<td>10</td>
</tr>
</tbody>
</table>

Theory-composition majors are required to present for public performance a selection of their compositions representing large and small forms, totaling a minimum of 20 minutes. Students must submit completed scores representing a majority of the program to an examining committee the semester prior to that of the proposed recital; the examining committee shall determine the acceptability of the program. The composition of the scores must be submitted in a minimum of two ink copies. These ink scores must represent a high quality of music manuscript and must be completed in the candidate’s own hand. In addition, students may elect to present a recital in their chief performing medium with the permission of their applied music instructor and achievement of junior proficiency in that instrument.

Bachelor of Music in Performance—Instrumental Major

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>28</td>
</tr>
<tr>
<td>Chief performing medium</td>
<td>24</td>
</tr>
<tr>
<td>Second performing medium (four semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Theory</td>
<td>44</td>
</tr>
<tr>
<td>Mus.-Comp. 127Q-129, 128-130, 227-229, 228-230, 523, 561 or 661 and 641, 645, 643 or 345</td>
<td>12</td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>12</td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 217 or 218 and 651 or 691</td>
<td>10</td>
</tr>
</tbody>
</table>

Electives (six hours of music electives required—to include Mus. Perf. 680 for woodwind majors; Mus. Perf. 681 for brass majors; Mus. Perf. 682 for percussion majors; Mus. Perf. 620 for violin and viola majors) | 11 |

Senior Recital (Mus. Perf. 400) | 1 |

Recital attendance (specified number of recitals per semester for four semesters, Mus. Perf. 050.) | 4 |

* See degree check sheets for specified ensembles.

Bachelor of Music in Performance—Keyboard Major

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>28-32</td>
</tr>
<tr>
<td>Chief performing medium</td>
<td>24</td>
</tr>
<tr>
<td>Second performing medium (four semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 250 and 251, Applied Piano Concerto (for piano performance majors) (2 semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Piano accompanying majors: Piano</td>
<td>16</td>
</tr>
<tr>
<td>Applied accompanying majors (Mus. Perf. 223, 224, 423 and 424)</td>
<td>12</td>
</tr>
<tr>
<td>Theory</td>
<td>22-26</td>
</tr>
<tr>
<td>Mus.-Comp. 127Q-129, 128-130, 227-229, 228-230, 523, 561 or 661, 345, 641, 643 or 645; and for piano accompanying majors only, Mus. Perf. 121, 122, 221, 222</td>
<td>10</td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>9</td>
</tr>
<tr>
<td>Mus.-Comp. 113Q, 334Q and 335Q</td>
<td>4</td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 217 or 218 and 651 or 691</td>
<td>9</td>
</tr>
</tbody>
</table>

Organ majors | 10 |

Piano majors | 8 |

Saxophone majors (
Four semesters of accompanying required for all Bachelor of Music piano majors and 4 hours of appropriate ensemble. Keyboard scholarship recipients are required to enroll in accompanying each semester they hold a scholarship.)

Organ majors (electives) | 11 |

(Mus. Perf. 575-598 and 4 hours of music electives)

Ensembles

Organ majors | 10 |
Piano majors | 8 |

(Special provisions for accompanying majors)

Recital Attendance—Mus.-Perf. 050, Recital Attendance (specified number of recitals per semester for four semesters) | 2 |

Mus.-Perf. 300, Junior Recital (for piano performance majors and accompanying majors) | 1 |

Mus.-Perf. 400, Senior Recital (for piano accompanying majors) | 1 |

Mus.-Perf. 450 and 451, Accompanying Recital (for piano accompanying majors) | 2 |

Piano Proficiency Exam

Bachelor of Music in Performance—Vocal Major

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>26</td>
</tr>
<tr>
<td>Voice (two semesters)</td>
<td>24</td>
</tr>
</tbody>
</table>

Study in another instrument may be substituted if student meets piano proficiency level...
### Bachelor of Music in Performance with Minor in Theater

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
<th>Bachelor of Music in Performance with Minor in Theater</th>
</tr>
</thead>
</table>
| Applied Music | 16   | Chief performing medium 16  
Theory         | 4    | 20  
Mus.-Comp. 1270-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645, 643 or 345  
History and Literature of Music | 11   | 11  
Mus.-Comp. 113Q, 334Q and 335Q  
Conducting     | 4    | 4  
Mus. Perf. 217 or 218 and 651 or 691  
Ensembles (see degree sheets for specified ensembles) | 8 or 10 | 8 or 10  
Electives      | 5    | 5  
Vocal majors required Mus. Perf. 121, 221, 222, Piano majors required Mus. Perf. 580  
Senior Recital (Mus. Perf. 400) | 1    | 1  
Recital attendance (specified number of recitals per semester for four semesters, Mus. Perf. 050) | 1    | 1  
Theatre Requirements | 24   | 24  
Thea. 180 (1), 221Q (3), 243Q (3), 244 (3), 253 (3), 254 (1), 259 (3), 380 (1), 623Q (3), 624Q (3). |

### Bachelor of Music in Performance with Minor in Journalism (News Editorial Emphasis)

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
<th>Bachelor of Music in Performance with Minor in Journalism (News Editorial Emphasis)</th>
</tr>
</thead>
</table>
| Applied Music | 20   | Chief performing medium 16  
Theory         | 4    | 20  
Mus.-Comp. 1270-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645, 643 or 345  
History and Literature of Music | 11   | 11  
Mus.-Comp. 113Q, 334Q and 335Q  
Conducting     | 4    | 4  
Mus. Perf. 217 or 218 and 651 or 691  
Ensembles (see degree sheets for specified ensembles) | 8 or 10 | 8 or 10  
Electives      | 5    | 5  
Vocal majors required Mus. Perf. 121, 221, 222, Piano majors required Mus. Perf. 580  
Senior Recital (Mus. Perf. 400) | 1    | 1  
Recital attendance (specified number of recitals per semester for four semesters, Mus. Perf. 050) | 1    | 1  
Journalism Requirements | 21   | 21  
Journalism 115Q (3); 200 (3); 300 (3); 500 (3); 550 (3); 560 (3); 690 (3). |

### Bachelor of Music in Performance with Minor in Journalism (Advertising/Public Relations Emphasis)

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
<th>Bachelor of Music in Performance with Minor in Journalism (Advertising/Public Relations Emphasis)</th>
</tr>
</thead>
</table>
| Applied Music | 20   | Chief performing medium 16  
Theory         | 4    | 20  
Mus.-Comp. 1270-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645, 643 or 345  
History and Literature of Music | 11   | 11  
Mus.-Comp. 113Q, 334Q and 335Q  
Conducting     | 4    | 4  
Mus. Perf. 217 or 218 and 651 or 691  
Ensembles (see degree sheets for specified ensembles) | 8 or 10 | 8 or 10  
Electives      | 5    | 5  
Vocal majors required Mus. Perf. 121, 221, 222, Piano majors required Mus. Perf. 580  
Senior Recital (Mus. Perf. 400) | 1    | 1  
Recital attendance (specified number of recitals per semester for four semesters, Mus. Perf. 050) | 1    | 1  
Journalism Requirements | 21   | 21  
Journalism 115Q (3); 200 (3); 300 (3); 500 (3); 550 (3); 560 (3); 690 (3). |

### Bachelor of Music in Performance with Minor in Journalism (Broadcasting Emphasis)

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
<th>Bachelor of Music in Performance with Minor in Journalism (Broadcasting Emphasis)</th>
</tr>
</thead>
</table>
| Applied Music | 20   | Chief performing medium 16  
Theory         | 4    | 20  
Mus.-Comp. 1270-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645, 643 or 345  
History and Literature of Music | 11   | 11  
Mus.-Comp. 113Q, 334Q and 335Q  
Conducting     | 4    | 4  
Mus. Perf. 217 or 218 and 651 or 691  
Ensembles (see degree sheets for specified ensembles) | 8 or 10 | 8 or 10  
Electives      | 5    | 5  
Vocal majors required Mus. Perf. 121, 221, 222, Piano majors required Mus. Perf. 580  
Senior Recital (Mus. Perf. 400) | 1    | 1  
Recital attendance (specified number of recitals per semester for four semesters, Mus. Perf. 050) | 1    | 1  
Journalism Requirements | 21   | 21  
Journalism 115Q (3); 200 (3); 300 (3); 500 (3); 550 (3); 560 (3); 690 (3). |
Electives ........................................ 5
  Vocal majors require Mus. Perf. 121, 221, 222. Piano majors require Mus. Perf. 500
  Senior Recital (Mus. Perf. 400) 1
  Recital attendance (specified number of recitals per semester for four semesters, Mus. Perf. 050)
Journalism Requirements ............. 21
  Journalism 115Q (3); 200 (3); 322 (3); 522 (3); 560 (3); 690 (3).

Bachelor of Music Education Requirements

Students receiving the BME must meet the state requirements for the secondary three-year certificate and three-year elementary certificate. Students may select from four options within the degree:

1. Instrumental emphasis offered to satisfy the needs of students whose chief performing medium is instrumental or keyboard and who plan to enter the field of instrumental music teaching in the public schools.
2. Vocal emphasis offered to satisfy the needs of students whose chief performing medium is voice, piano or guitar and who plan to enter the field of vocal and general music teaching in the public schools.
3. Special music education emphasis offered to satisfy the needs of students, either vocal or instrumental specialists, who plan to enter the field of music education for special education children in the public schools.
4. Piano pedagogy emphasis offered to satisfy the needs of students whose chief performing medium is piano and who plan to enter the field of vocal and general music teaching in the public schools and studio piano teaching in the community.

Student Teaching

Admission into the student teaching semester requires a minimum cumulative grade point average of 2.500; a minimum grade point average of 2.500 in music courses; senior standing (90 hours—200 credit points); a grade of C or better in English composition (Eng. 101 or its equivalent and Eng. 102); a grade of C or better in Speech 111 or 112; completion of prerequisites in educational psychology, foundations of education and music education methods; successful completion of the piano proficiency exam; successful completion of a physical examination; and a recommendation by the music education area.

Transfer students must satisfy educational requirements for prerequisites not taken at Wichita State.

All students must have an application on file with the music education area and receive its approval. Students must file applications with the Director of Music Education.

Graduation Requirements

The following program fulfills both the University requirements for graduation and the Kansas certification requirement and must be taken by all Bachelor of Music Education candidates. In completing the BME program, the student must meet the general education program requirements of the University given in the Academic Information—Requirements for Graduation section of the Catalog.

General Education Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Skills</td>
<td>12</td>
</tr>
<tr>
<td>Eng. 101 and 102</td>
<td>6</td>
</tr>
<tr>
<td>Speech 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>Math. 109, 111, 112 or 211</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Fine Arts</td>
<td>9</td>
</tr>
<tr>
<td>Literature required, 3 hrs.; Mus.-Comp. 113Q required, 3 hrs.; 3 hrs. from American studies, art education, art history, foreign language (excluding basic language courses), history, linguistics, musicology-composition, philosophy or religion</td>
<td></td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 111Q required, 3 hrs.; 3 hrs. from sociology, anthropology, economics, geography or political science</td>
<td></td>
</tr>
<tr>
<td>Mathematics and Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Courses in 2 of the following departments: biological sciences, chemistry, geology, mathematics or physics</td>
<td></td>
</tr>
<tr>
<td>Electives (to make a total of 42 hours)</td>
<td>9</td>
</tr>
<tr>
<td>6 hours required from Mus.-Comp. 334Q and 335Q. Other hours may be taken in any University division (except the student's major area. Special music education majors will elect CDS 1110.)</td>
<td></td>
</tr>
</tbody>
</table>

Professional Education Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>24</td>
</tr>
<tr>
<td>IS 233 or 333 and 433</td>
<td>6</td>
</tr>
<tr>
<td>IS 232, 231, 234 and 428</td>
<td>6</td>
</tr>
<tr>
<td>IS 401</td>
<td>3</td>
</tr>
<tr>
<td>IS 456</td>
<td>3</td>
</tr>
<tr>
<td>IS 451*</td>
<td>3</td>
</tr>
<tr>
<td>IS 469</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Courses Required for Instrumental Emphasis

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>18</td>
</tr>
<tr>
<td>Instrumental majors (chief medium)</td>
<td>14</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>Keyboard majors (chief medium)</td>
<td>14</td>
</tr>
<tr>
<td>(second instrument)</td>
<td>2</td>
</tr>
<tr>
<td>Electric bass majors (electric bass)</td>
<td>10</td>
</tr>
<tr>
<td>(string bass)</td>
<td>4</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>Required for all of the above: majors: Mus. Ed. 341, 1 hr.; and 342, 1 hr.</td>
<td></td>
</tr>
<tr>
<td>Students must be enrolled in applied music during the semester of their senior recital</td>
<td></td>
</tr>
<tr>
<td>General Music</td>
<td>24-26</td>
</tr>
<tr>
<td>Mus.-Comp. 1270-1279, 128-130, 227-229, 228-230, 561, 641 or 645 or 643, Mus. Perf. 217 or 218, 651 or 691. Required for piano majors, Mus. Perf. 307 and 407</td>
<td></td>
</tr>
<tr>
<td>Ensembles</td>
<td>6-10</td>
</tr>
<tr>
<td>Instrumental majors</td>
<td>10</td>
</tr>
<tr>
<td>Piano majors</td>
<td>8</td>
</tr>
<tr>
<td>(see degree sheets for specified ensembles)</td>
<td></td>
</tr>
<tr>
<td>Recital attendance (four semesters plus senior recital-Mus. Perf. 050)</td>
<td></td>
</tr>
<tr>
<td>Music Education</td>
<td>16</td>
</tr>
<tr>
<td>Mus. Ed. 204, 304, 404* and 611</td>
<td>10</td>
</tr>
<tr>
<td>Mus. Ed. 235, 236, 237, 238, 239 and 240</td>
<td>6</td>
</tr>
</tbody>
</table>

Additional Courses Required for Vocal (Keyboard) Emphasis

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>16</td>
</tr>
<tr>
<td>Vocal majors (voice)</td>
<td>14</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>Keyboard majors (piano)</td>
<td>14</td>
</tr>
<tr>
<td>(Mus. Ed. 341, 342)</td>
<td>2</td>
</tr>
<tr>
<td>Students must be enrolled in applied music during the semester of their senior recital.</td>
<td></td>
</tr>
<tr>
<td>General Music</td>
<td>28</td>
</tr>
<tr>
<td>Mus.-Comp. 1270-1279, 128-130, 227-229, 228-230, 561 or 661, 641 or 645 or 643, Mus. Perf. 217 or 218, 651 or 691, and Music Ed. 342; 3 hrs. of music electives for vocal majors; for piano majors, Mus. Perf. 307 and 407 required</td>
<td></td>
</tr>
</tbody>
</table>
**Music Major in Fairmount College of Liberal Arts and Sciences**

Students in Fairmount College of Liberal Arts and Sciences who wish to major in music are required to elect 41 hours as specified in the following areas and course listings.

**Area**

**Group I**
- Music Literature and History
  - Mus.-Comp. 113Q
  - six hours from Mus.-Comp. 334Q-335Q

**Group II**
- Music Theory
  - Mus.-Comp. 127Q-129, 128-130, 227-229, 228 and 523

**Group III**
- Counterpoint
  - Music Theory, 661

**Group IV**
- Conducting, Orchestration and Choral Arranging
  - Mus. Perf. 217 or 218 and Mus.-Comp. 641, 643 or 645

**Group V**
- Applied Music (four semesters)
  - Voice, piano, organ, or orchestral instrument

**Group VI**
- Ensemble
  - Select in consultation with adviser

**Group VII**
- Electives from the areas of music, literature, music theory, counterpoint, conducting, orchestral and choral literature

**Music Minor in Fairmount College of Liberal Arts and Sciences**

A music minor in Fairmount College of Liberal Arts and Sciences consists of 12 hours selected from the following: Music Theory, 661, Conducting, Orchestration and Choral Arranging, and any Electives from the areas of music, literature, music theory, counterpoint, conducting, orchestral and choral literature.

**Music Education**

**Lower-Division Courses**

150. Music Education Workshop. (1-4). Repeatable for credit. F 11 150 2 0832

203. Fundamentals of Vocal Music for Secondary Schools. (3). The teaching of music in the secondary school, consideration of objectives and examination of materials. Prerequisite: music education major or instructor's consent. Grades F 11 203 0 0632

204. Fundamentals of Instrumental Music for Secondary Schools. (3). Techniques and materials focused on teaching instrumental music in junior and senior high schools. Prerequisite: music education major or instructor's consent. Grades F 11 204 0 0632

235. Methods of Teaching Orchestral Instruments (Violin and Viola). (1). Procedures and materials for class and private teaching. Prerequisites: music education major or instructor's consent. Grades F 11 235 0 0832

236. Methods of Teaching Orchestral Instruments (Cello and String Bass). (1). Procedures and materials for class and private teaching. Prerequisites: music education major or instructor's consent. Grades F 11 236 0 0832

237. Methods of Teaching Band and Orchestral Instruments (Clarinet and Saxophone). (1). Procedures and materials for class and private teaching. Prerequisites: music education major or instructor's consent. Grades F 11 237 0 0832

238. Methods of Teaching Band and Orchestral Instruments (Flute and Double Reeds). (1). Designed to prepare the prospective instrumental music instructor to effectively teach flute and double reeds in the public school setting. Prerequisites: music education major or instructor's consent. Grades F 11 238 0 0832

239. Methods of Teaching Band and Orchestral Instruments (Brass). (1). Procedures and materials for class and private teaching of all brass instruments, emphasizing tone qualities, differences in embouchure and necessary techniques for performance. Prerequisite: music education major or instructor's consent. Grades F 11 239 0 0832
A must be formulated in enrolling concurrently in a programs

Parallel, Special problems and techniques in the Open to upper-division or graduate stu­
garten classroom. Included are the develop­
dment of playing, singing and con­
ing music teacher, classroom teacher or

tivities; a survey of available materials: and
dysfunctioning children and their problems
Courses for

materials are surveyed. Prerequisite: Mus. Ed. 239
or equivalent. F 11 739A 0 0832

A field placement which integrates course work with a planned and supervised professional ex­
erience designed to complement and en­
hance the student's academic program. Indi­

dividualized programs must be formulated in consultation with and approved by appro­
propriate faculty sponsors and cooperative edu­
cation coordinators. Students enrolled in Co-op 281 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addi­
tion to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisite: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NC only. F 11 281 2 0832

Upper-Division Courses

303. Survey of Vocal Music for Elementary Schools. (3). An overview of activities in the elementary general music program. Included are a study of objectives for elementary classes and consideration of materials and methods. Includes autoharp, recorder tech­
niques and music theatre for public schools. The course is for students primarily interested in teaching music in the elementary schools. Prerequisite: Mus. Ed. 203. Grades K-8. F 11 303 0 0832

304. Survey of Instrumental Elementary School Music. (3). A survey of methods and materials in the elementary school instrument­
al program of instruction. Course is for stu­
dents primarily interested in teaching instrume­
tal music in the elementary schools. Prerequisite: Mus. Ed. 204. Grades 4-8. F 11 304 0 0832

309. Survey of Music for Special Educa­
tions. (3). Consideration of methods and problems in preparation for student teaching of music with special education students at grade 4 through 12. Required of majors on choral/keyboard program and choral/key­
board majors on special music education program. F 11 241 0 0832

281. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional ex­
erience designed to complement and en­
hance the student's academic program. Indi­

dividualized programs must be formulated in consultation with and approved by appro­
propriate faculty sponsors and cooperative edu­
cation coordinators. Students enrolled in Co-op 281 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addi­
tion to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisite: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NC only. F 11 281 2 0832

Upper-Division Courses

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dents primarily interested in teaching instrume­
tal music in the elementary schools. Prerequisite: Mus. Ed. 204. Grades 4-8. F 11 304 0 0832

309. Survey of Music for Special Educa­
tions. (3). Consideration of methods and problems in preparation for student teaching of music with special education students at grade 4 through 12. Required of majors on choral/keyboard program and choral/key­
board majors on special music education program. F 11 241 0 0832

281. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional ex­
erience designed to complement and en­
hance the student's academic program. Indi­

341. Survey of Singing Techniques and Literature. (1). Vocal problems and strate­
gies and the development of sufficient vocal skill to assure effective use of the voice in demonstrating vocal technique. Experience in using the singing voice as a teaching tool. Included in the course are the solo voice. Required for instrumental, keyboard and special music education majors. Grades K-12. F 11 341 0 0832

342. Survey of Choral Techniques and Lit­

erature. (1). A study of basic techniques of ensembles and examination of literature for large and small ensembles. Includes song leading. Required for music education majors. Prerequisites: one hour of applied voice or choir. F 11 217 or 218, Grades 6-12. F 11 342 0 0832

351. Music Fundamentals for the Class­
room Teacher. (3). For students planning to teach in the elementary school classroom. Basic fundamentals of music are included. Prerequisites: one hour of applied voice or choir. F 11 217 or 218, Grades 6-12. F 11 351 0 0832

352. Music Methods for the Classroom Teacher. (3). For the elementary classroom teacher. The development of children's musi­
cal growth through singing, listening, rhyth­
mic and creative activities is emphasized. Prerequisite: Mus. Ed. 35. F 11 352 0 0832

403. Advanced Techniques of Vocal/Gen­
eral School Music. (1). Emphasis on special problems related to preparation for student teaching; consideration of the vocal and general music programs at all levels. Included are audiovisual instruction and mate­

gual. Prerequisites: Mus. Ed. 203 and 303 and a survey of special education music majors. F 11 352 0 0832

404. Advanced Techniques of Instrumental School Music. (1). Consideration of special problems related to preparation for student teaching in instrumental music programs at all levels. Included are audiovisual instruc­
tion and materials. Prerequisites: Mus. Ed. 204 and 304. To be taken during student teaching semester. Grades 4-12. F 11 404 0 0832

481. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional ex­
erience designed to complement and en­
hance the student's academic program. Indi­

dividualized programs must be formulated in consultation with and approved by appro­
propriate faculty sponsors and cooperative edu­
cation coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addi­
tion to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisite: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NC only. F 11 481 2 0832

Courses for Graduate/Undergraduate Credit

606. Music Methods for Early Childhood Education. (3). Methods and materials for teaching music in the preschool and kinderg­
tarten classroom. Included are the develop­
m ent of the child's musical potential through singing, listening, rhythmic and creative ac­
tivities; a survey of available materials; and development of playing, singing and con­
struction of the elementary year and satisfactory academic
Courses for Graduate Students Only

821. Elementary Music Supervision. (3). Trends in elementary music education; evaluation of various materials and techniques; and special projects in planning and executing a program of music supervision. Prerequisite: Mus. Ed. 831 or instructor's consent. F 11 821 0 0832

822. Advanced Techniques in Special Music Education. (3). A course for the music education special emphasis MME candidates only. Research literature and trends in special music education are studied. An evaluation of materials and techniques and special projects exploring the development of musical understanding in the dysfunctioning child are included. This course satisfies the requirement, effective September 1, 1981, that applicants for initial certification or renewal of secondary and/or elementary certification shall present a survey course, or equivalent content from other courses, in the subject area of exceptional children. This provision applies to initial certification and recertification of music teachers only. Prerequisite: Mus. Ed. 832 or concurrent enrollment. F 11 823 2 0832

823. Special Music Education Practicum. (3). For the music special education emphasis MME candidate only. Supervised teaching is done in special education classrooms. A companion course to Mus. Ed. 822; this course gives opportunity to special education emphasis MME candidate experience in teaching in special education classrooms. Prerequisite: Mus. Ed. 822 or concurrent enrollment. F 11 825 2 0832

831. Developing the Child’s Musical Understanding. (3). Definition of understandings necessary for the attainment of musical awareness in the child. The exploration of classroom experiences is directed toward the successful development of understanding through the application of basic learning principles. Prerequisite: Mus. Ed. 403. F 11 831 0 0832


841. Special Project in Music. (1-3). Individual supervised study or research with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor’s consent. F 11 841 4 0832

842. Special Project in Music. (1-3). Individual supervised study or research with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 11 842 4 0832

844. Terminal Conducting Project. (2). Individually supervised project for those selecting the conducting option on the instrumental or choral emphasis under the MME degree. Prerequisite: instructor and departmental consent. F 11 844 4 0832

845A. Seminar in Instrumental Music Education Literature. (2). Critical analysis of literature for band, orchestra and small ensembles in elementary and secondary schools. Current bibliography is used. Repeatable for credit. F 11 845A 9 0832

851. Psychology of Music. (2). An overview of music behaviors from a psychological perspective. Recent literature concerning human psychoacoustics; melody, rhythm and harmonic perception; and major learning theories are related to current trends in music education. F 11 851 0 0832

852. Introduction to Graduate Study. (3). See course listing under musicology-composition department. F 13 852 0 1006

854. Research Seminar in Music Education. (3). Continued application of techniques of research. The completion of a major research project is required. Prerequisite: Mus.-Comp. 852. F 11 854 9 0832

871. History and Philosophy of Music Education. (2). A study of historical trends and contemporary philosophies relevant to music education. Behavioral objectives and curriculum planning. Prerequisite: Mus. Ed. 851. F 11 871 0 0832

875. Thesis Research. (1-2). F 11 875 4 0832

876. Thesis. (2). F 11 876 4 0832

Music Performance

Applied Music Private Study

112. Applied Music Instruction for Nonmajors. (2). Basic applied instruction for persons who are not active in a music degree program. May not be used to fulfill music degree requirements. Repeatable for credit. F 12 112 3 1004

231. (1). Basic instruction. Repeatable for credit. Lower division. F 12 231 3 1004

232. (2). For majors only. Repeatable for credit. Lower division. F 12 232 3 1004

431. (1). Repeatable for credit. Upper division. F 12 431 3 1004

432. (2). For majors only. Repeatable for credit. Upper division. F 12 432 3 1004

434. (4). For performance majors only. Repeatable for credit. Upper division. F 12 434 3 1004

712. Applied Music Instruction for Nonmajors. (2). Basic applied instruction for persons who are not active in a music degree program. May not be used to fulfill music degree requirements. Repeatable for credit. F 12 712 3 1004

731. (1). Repeatable for credit. Graduate. F 12 731 3 1004

732. (2). For majors only. Repeatable for credit. Graduate. F 12 732 3 1004

734. (4). For performance majors or students preparing for master's degree recitals only. Repeatable for credit. Graduate. F 12 734 3 1004

Applied Music Abbreviations

A Bassoon
B Cello
C Clarinet
D Drum
E Flute
F French Horn
G Guitar
H Harp
I Oboe
J Organ
K Percussion
L Piano
M Violin
N Trumpet
O Saxophone
P Voice
Q Electric Bass
R String Bass
S Trombone
T Trumpet
U Tuba
V Viola
W Violin
X Double Bass
Y Cello
Z Electric Bass

Applied Music Classes

117J. (2). Guitar class. Beginners. F 12 117J 3 1004

117P. (1). Piano class. Beginners. F 12 117P 3 1004

117W. Violin class for Adult Beginners. (2). Beginning violin class: fundamentals of learning to play violin with emphasis on tone and intonation development; basic techniques for reading (notes and rhythm). May not be applied to music major requirements. Repeatable for credit. F 12 117W 3 1004

117Y. Popular Vocal Styles. (2). Class voice instruction for adults with an emphasis on basic vocal technique and how it can be applied for use in popular styles of singing, including vocal jazz, pop, music theatre, etc. Class will give students an opportunity to explore techniques for developing their own voices and to practice singing in a supportive environment, and will include information via lecture, demonstration, listening to recordings related to stylistic differences in the popular idiom. Intended for nonmusic majors and will not be applicable to music degree requirements. Repeatable for credit. F 12 117Y 3 1004

118J. (2). Guitar class. Intermediate. F 12 118J 3 1004

118P. (1). Piano class. Music majors. F 12 118P 3 1004

119P. (1). Piano class. Piano majors. F 12 119P 3 1004

120P. (2). Piano class. Nonmajors. F 12 120P 3 1004

717W. Violin class for Adult Beginners. (2). Beginning violin class: fundamentals of learning to play violin with emphasis on tone and intonation development; basic techniques for reading (notes and rhythm). May not be applied to music major requirements. Repeatable for credit. F 12 717W 3 1004

717Y. Popular Vocal Styles. (2). Class voice instruction for adults with an emphasis on basic vocal technique and how it can be applied for use in popular styles of singing, including vocal jazz, pop, music theatre, etc. Class will give students an opportunity to explore techniques for developing their own voices and to practice singing in a supportive environment, and will include information via lecture, demonstration, listening to recordings related to stylistic differences in the
Lower-Division Courses

107-207. Piano Repertoire. (1-1). Designed to give performing and listening experience to piano majors. Repeatable for credit. F 12 107 2 1004; F 12 207 2 1004.

121. Italian Diction. (1). Designed for the vocal performer, including a comprehensive study of Italian consonant and vowel sounds. F 12 121 0 1004.

122. English Diction. (1). Designed for the vocal performer, including a comprehensive study of English consonant and vowel sounds. F 12 122 0 1004.


210-211-212-213-214. Ensembles. (1-1-1-1-1). (A) Orchestra; (B) Concert Band; Marching Band; Symphony Band; Wichita Community Band; Wind Ensemble; (C) Choral Union; (D) Women's Choir; (E) Men's Choir; (F) A Capella Choir; University Singers; Concert Chorale; (J) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (O) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) String Ensemble; (T) Jazz Arts Ensembles I and II; (V) Guitar Ensemble. Repeatable for credit. F 12 210 1 1004; F 12 211 1 1004; F 12 212 1 1004; F 12 213 1 1004; F 12 214 1 1004.

217. Instrumental Conducting. (2). Fundamentals of baton technique, elementary score reading and musical leadership. Practical experience in conducting laboratory and classroom groups. F 12 217 0 1004.

218. Choral Conducting. (2). Fundamentals of conducting, score reading and rehearsal techniques. Practical experience conducting classroom groups. Prerequisites: Mus. Comp. 128 and 130. F 12 218 0 1004.

221. German Diction. (1). Designed for the vocal performer, including a comprehensive study of German consonant and vowel sounds. F 12 221 0 1004.

222. French Diction. (1). Designed for the vocal performer, including a comprehensive study of French consonant and vowel sounds. F 12 222 0 1004.

Upper-Division Courses

300. Junior Recital. (1). Required for BM piano majors, performance or accompanying emphasis. Prerequisite: departmental consent. F 12 300 3 1004.


400. Recital. (1). Prerequisite: departmental consent. F 12 400 3 1004.

410-411-412-413-414. Ensembles. (1-1-1-1-1). (A) Orchestra; (B) Concert Band; Marching Band; Symphony Band; Wichita Community Band; Wind Ensemble; (C) Choral Union; (D) Women's Choir; (E) Men's Choir; (F) A Capella Choir; University Singers; Concert Chorale; (J) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (O) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) String Ensemble; (T) Jazz Arts Ensembles I and II; (V) Guitar Ensemble. Repeatable for credit. F 12 410 1 1004; F 12 411 1 1004; F 12 412 1 1004; F 12 413 1 1004; F 12 414 1 1004.

415Y. Voice for Music Theater. (2). Basic repertoire and singing techniques with weekly master class devoted to music theater techniques and concepts. Restricted to persons other than vocal majors. F 12 415Y 3 1004.


481. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: Parallel, enrolling full-time one semester in a field study and returning full-time the following semester; or alternation, working full-time one semester in a field study and returning part-time the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NCr only. F 12 481 2 1004.
and types of choral composition for the advanced student. Prerequisite: Mus. Perf. 217 or 218 or equivalent. F 12 691 0 1004

707. Piano Repertoire. (1). Designed to give performing and listening experience to piano performance majors. Repeatable for credit. F 12 707 2 1004

710-711-712-713-714. Ensembles. (1-1-1-1-1). (A) Orchestral Concert : Marching Band; Symphony Band; Wichita Community Band; Wind Ensemble; (C) Choral Union; (D) Women’s Glee Club; Men’s Glee Club; (F) A Cappella Choir; University Singers; Concert Chorale; (J) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (N) Wind Ensemble; (S) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) String Ensemble; (T) Jazz Arts Ensembles I and II; (V) Guitar Ensemble. Repeatable for credit. F 12 710 1 1004; F 12 711 1 1004; F 12 712 1 1004; F 12 713 1 1004; F 12 714 1 1004

715Y. Voice for Music Theater. (2). Basic techniques of singing and the understanding of musical and theatrical techniques used with weekly master class devoted to music theater techniques and concepts. Restricted to persons other than vocal majors. F 12 715Y 3 1004

750. Music Performance Workshop. (1-4). Repeatable for credit. F 12 750 0 1004

760. Group Piano Practicum. (2). Supervised group piano teaching for graduate students. Prerequisites: Mus. Perf. 580 and 581. F 12 760 2 1004

761. Studio Piano Practicum. (2). Supervised individual piano teaching for graduate students. Prerequisites: Mus. Perf. 580 and 581. F 12 761 2 1004

790. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent. F 12 790 2 1004

Courses for Graduate Students Only

841. Special Project in Music. (1-3). Individually supervised study or research with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: Instructor’s consent. F 12 841 4 1004

842. Special Project in Music. (1-3). Individually supervised study or research with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: Instructor’s consent. F 12 842 4 1004

843. Piano Pedagogy Seminar. (2). Variable topics, such as (1) advanced techniques in class piano or private piano (college curriculum); (2) class piano in early childhood; (3) class piano for children and young adults; (4) class piano in public (or private) schools, extending the advanced preparation of piano pedagogy students as needed. Repeatable for credit. Prerequisite: Mus. Perf. 580. F 12 843 0 1004

852. Introduction to Graduate Study. (3). See course listing under musicology-composition department. F 13 852 0 1006

873. Graduate Recital. (2). Performance of a full recital featuring the chief performing medium. Prerequisite: Consent of instructors in applied area. F 12 873 4 1004

874. Professional In-Service Presentation Project. (2). Planning, organizing and presenting a three-hour in-service presentation ("workshop") to in-service private piano teachers, perhaps in conjunction with an established community piano teacher’s league, etc. Available as a terminal requirement alternative (in lieu of performance recital) in the Master of Music (piano pedagogy emphasis). Students approved for the terminal requirement option will also be required to perform a major piano work, prepared at acceptable recital level, during semester jury examination within the final year (two semesters) of the degree program. Requires approval of piano performance area faculty. Prerequisite: departmental consent. F 12 874 4 1004

Musicology-Composition

Noncredit Course

060. Topics in Music. (1-3). Topics exploring events, conditions, relationships, styles, etc., in music. See Schedule of Courses for current listing. Not applicable to degree. Repeatable. F 13 080 2 1004

Lower-Division Courses

113Q. Introduction to Music Literature. (3). Development of skills and techniques used in critical analysis and a comparison of the contrasting styles of both Western and non-Western music. The course is designated for music majors with some musical background. F 13 113Q 0 1006

114. Music Literature Survey, (2). A survey of representative works from the vocal and instrumental repertoire. Prerequisite: Mus.-Comp. 113Q or instructor’s consent. F 13 114 4 1004

127Q. Theory I. (2). Fundamentals of music, melodic writing and analysis, elementary melodic formal structures (cadences, periods, musical phrases, musical periods), as well as basic orchestration techniques related to these texts. Study of an appropriate score being performed by a University ensemble. Prerequisite: Mus.-Comp. 128. F 13 127Q 0 1004

128. Theory IV. (2). Study of the larger homophonic forms (sonata, concerto) using techniques acquired in previous semesters. Analysis of an appropriate score being performed by a University ensemble and/or performed in class. Prerequisite: Mus.-Comp. 127. F 13 128 0 1004

129. Aural Skills III. (2). Recognition, singing and dictation of contrapuntal textures with continued harmonic practice emphasizing elementary chromaticism. Instruction assisted by computer. Prerequisite: Mus.-Comp. 130. F 13 129 0 1004

245. Jazz Improvisation. (2). Melodic, harmonic and rhythmic creation with emphasis on the relationship of scale patterns and seventh chords. Repeatable for credit. Prerequisites: Mus.-Comp. 128 and 130 or instructor’s consent. F 13 245 0 1004

259 & 260. Applied Composition. (2-2). Individual study in fundamentals of musical composition with emphasis on the development and expansion of music materials. May be taken as an elective. May be repeated as an elective by those not majoring in theory-composition. Prerequisites: Mus.-Comp. 127Q or equivalent and instructor’s consent. F 13 259 3 1004 & F 13 260 3 1004

281. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. Prerequisites: F 13 281 0 1004

150G. The Heritage of Western Music. (3). Intended to acquaint the nonmajor with the concept of Western music. Emphasis on the development of listening techniques by which the student may perceive and understand fundamental musical processes as they exist in the various styles within the Western heritage. F 13 150G 0 1005

161. Music through the Ages. (3). Open to all students, particularly those involved in alternative schedules. It is designed to help students develop the capacity for critical music listening and an appreciation for all musical styles. F 13 161 0 1005

162. Afro-American Music. (2). A survey of Afro-American music, its origins and development and the influence of Afro-American music in the United States up to the present time. F 13 162 0 1005

227. Theory III. (2). The study of contrapuntal forms and textures from music of all periods. Melodic, harmonic and rhythmic aspects of these forms are studied. Prerequisite: Mus.-Comp. 127. F 13 227 0 1004

228. Theory V. (2). Study of the larger homophonic forms (sonata, rondo) using techniques acquired in previous semesters. Analysis of an appropriate score being performed by a University ensemble and/or performed in class. Prerequisite: Mus.-Comp. 127. F 13 228 0 1004

229. Aural Skills IV. (2). Recognition, singing and dictation of contrapuntal textures with continued harmonic practice emphasizing elementary chromaticism. Instruction assisted by computer. Prerequisite: Mus.-Comp. 132. F 13 229 0 1004

230. Aural Skills IV. (2). Summation and expansion of previous studies concentrating on the relationship of scale patterns and seventh chords. Repeatable for credit. Prerequisites: Mus.-Comp. 128 and 130 or instructor’s consent. F 13 230 0 1004

245. Jazz Improvisation. (2). Melodic, harmonic and rhythmic creation with emphasis on the relationship of scale patterns and seventh chords. Repeatable for credit. Prerequisites: Mus.-Comp. 128 and 130 or instructor’s consent. F 13 245 0 1004

259 & 260. Applied Composition. (2-2). Individual study in fundamentals of musical composition with emphasis on the development and expansion of music materials. May be taken as an elective. May be repeated as an elective by those not majoring in theory-composition. Prerequisites: Mus.-Comp. 127Q or equivalent and instructor’s consent. F 13 259 3 1004 & F 13 260 3 1004

281. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. Prerequisites: F 13 281 0 1004
working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NCr only. F 13 261 2 1006

Upper-Division Courses

310. Interrelated Arts. (3). Interdepartmental courses focusing on an aesthetic analysis of three arts. The course emphasizes style in the three arts. F 13 310 0 1005

315. Music of the 20th Century. (2). An aesthetic approach to music of this century, its major composers, and stylistic and formal characteristics. It is designed primarily for the nonmusic major who has musical interest and background. F 13 315 b 1005

334Q. History of Music I. (3). A survey of the evolution of musical styles and practices in the Western world through ca. 1750. Lectures, reference readings and the study of representative examples of music are included. Prerequisites: Mus.-Comp. 113Q and 227 or instructor's consent. F 13 334Q 0 1006

335Q. History of Music II. (3). A survey of the evolution of musical styles and practices in the Western world from ca. 1750 to the present. Lectures, reference readings and the study of representative examples of music are included. Prerequisites: Mus.-Comp. 113Q and 227 or instructor's consent. F 13 335Q 0 1006

345. Jazz Arranging. (2). Arranging for small and large jazz ensembles with emphasis on current big band styles. Prerequisites: Mus.-Comp. 228 and 230 or instructor's consent. F 13 345 0 1004

346Q. Styles of Jazz. (3). A survey of all eras in the evolution of the many styles in the jazz idiom from the end of the 19th century to the present. Coen to majors and nonmajors. F 13 346Q 0 1005

481. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester, such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NCr only. F 13 481 2 1006

493Q. American Music. (3). A study of music in American society from 1620 to the middle of the 20th century. F 13 493Q 0 1005

Courses for Graduate/Undergraduate Credit

523. Form and Analysis. (2). Extensive analysis of the forms and formal processes of musical literature. Prerequisite: Mus.-Comp. 227. F 13 523 0 1004

531. Introduction to Electronic Music. (2). Basic techniques of electronic music. Instruction is directed toward musicians who wish to use the electronic medium in teaching, performing or communicating in any way with their constituency. F 13 531 0 1004

559-560. Applied Composition. (2-2). Individual study in advanced musical composition with emphasis on writing for small ensembles in the smaller forms. Designed for theory-composition majors. Repeatable. Prerequisites: Mus.-Comp. 250 and consent of theory-composition area faculty and department chairperson to continue as a theory-composition major. F 13 559 3 1004; F 13 560 3 1004

561. 18th Century Counterpoint. (2). Contrapuntal devices of the 18th century as found in the works of J. S. Bach. Prerequisite: Mus.-Comp. 228. F 13 561 0 1004

563-564. Collegium Musicum. (1-1). A laboratory in the editing, rehearsal, and performing of early music. Prerequisite: instructor's consent. F 13 563 0 1005; F 13 564 0 1005

597-598. Organ Literature and Practice. (1-1). Performance and discussion of works for the instrument of all periods; study of organ design and construction; and practice in aspects of organ playing, modulation, accompanying and improvisation. Required of all organ majors. Repeatable. Prerequisite: Mus.-Comp. 228 or departmental consent. F 13 597 0 1004; F 13 598 0 1004

623. Opera Literature. (3). A comprehensive survey of Italian, German, French, Russian, English, and American opera literature from the 17th century to the present. Mus.-Comp. 113 is strongly recommended before taking the course. Should be taken prior to advanced opera experience. Not limited to music majors. F 13 623 0 1005

624. Oratorio and Cantata Literature. (2). A study of the solo vocal literature of the larger sacred and secular forms from the 17th century to the present. Coen to majors and nonmajors. F 13 624 0 1006

641. Orchestration. (2). The study of instrumentation, emphasizing idiomatic scoring for various instrumental combinations with an approach to the problems of full orchestra and small scales. Prerequisite: Mus.-Comp. 227. F 13 641 0 1004

643. Band Arranging. (2). Fundamental principles of arranging and scoring musical materials for various bands and wind ensembles. Prerequisite: Mus.-Comp. 227. F 13 643 0 1004

645. Choral Arranging. (2). Scoracing for women's, men's and mixed choruses. Performance and study of student ensembles and arrangement in class are included. Repeatable for credit. Offered Cr/NCr only. F 13 645 2 1006

659-660. Applied Composition. (2-2). Individual study in musical composition with emphasis on writing for both small ensembles and large groups in larger forms. Repeatable for credit. Prerequisite: instructor's consent. F 13 659 3 1004; F 13 660 3 1004

661. 16th Century Counterpoint. (2). Analysis and application of the contrapuntal composition techniques of the 16th century. Prerequisite: Mus.-Comp. 227. F 13 661 0 1004

671. Chromatic Harmony. (2). Advanced study of chromatic harmonic materials of all periods with special attention to the 19th century. Analysis and creative writing are emphasized. Prerequisite: Mus.-Comp. 227. F 13 671 0 1004

672. Contemporary Techniques. (2). Advanced study of music from impressionism to the present with emphasis on related literature and creative writing. Prerequisite: Mus.-Comp. 228. F 13 672 0 1004

685. String Literature and Materials. (2). A survey and stylistic analysis of music for solo strings and chamber combinations, beginning with the early baroque period. F 13 685 0 1006


726. Voice Literature. (3). A comprehensive survey of early Italian arias, French chansons, German lieder, contemporary English songs and Russian and Spanish literature. F 13 726 0 1006

750. Musicology-Composition Workshop. (1-4). Repeatable for credit. Prerequisite: instructor's consent. F 13 750 2 1004

752. Choral Literature. (3). A historical survey of choral literature from the Renaissance to the 20th century. F 13 752 0 1006

756. Teaching of Theory in the Community Junior College. (2). Designed to prepare the junior college theory teacher. Attention is given to contemporary trends in music theory and their application to plugging courses of study, evaluation of texts and pedagogical techniques. F 13 756 0 1004

781. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 781 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester, such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NCr only. F 13 781 2 1006

782-783. Piano Literature. (2-2). Survey of the historical eras of professional piano repertory. F 13 782 0 1006; F 13 783 0 1006

790. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent. F 13 790 2 1006

791-792. Seminar in Music History. (3-3). Areas of interest in music history are developed as term papers. No effort at a chronological survey is made. Focus of the seminar is the most interesting and considered by the instructor to be of the greatest professional benefit are included when interest warrants. F 13 791 9 1006; F 13 792 9 1006

Courses for Graduate Students Only

830. Seminar in Music Theory. (3). An analytical study of the materials used in musical
composition from antiquity to the present, employing analytical approaches such as Schenker, Hindemith, and serial techniques. The course is designed to develop analytical perspective rather than compositional skills. F 13 830 0 1004

840A-C. Seminar in the Techniques of Composition. (2). The nature of compositional techniques is examined through selected works in different media: (A) large ensembles, (B) small ensembles, and (C) solo literature. Prerequisites: Mus.-Comp. 671, 672 and 641, or departmental consent. F 13 840A 9 1004; F 13 840B 9 1004; F 13 840C 9 1004.

841-842. Special Project in Music; (1-3; 1-3). Individually supervised study or research with emphasis on the professional needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 13 841 4 1006; F 13 842 4 1006.

852. Introduction to Graduate Study. (3). Techniques of research and development of bibliography in music and music education. The course must be elected the first available semester of enrollment. F 13 852 0 1006.

859-860. Advanced Composition. (2-2). Original work in the large forms and a continuation and expansion of Mus.-Comp. 659-660. Prerequisite: Mus.-Comp. 660 or equivalent. F 13 859 3 1004; F 13 860 3 1004.


893. Music of Antiquity Through the Renaissance. (3). F 13 893 0 1006.

894. Music of the Baroque Era. (3). F 13 894 0 1006.

895. Music of the 18th Century. (3). F 13 895 0 1006.

896. Music of the 19th Century. (3). F 13 896 0 1006.

897. Music of the 20th Century. (3). F 13 897 0 1006.

School of Performing Arts

The School of Performing Arts includes the areas of dance and theatre. The school offers the degree of Bachelor of Fine Arts in Performing Arts/Dance and Bachelor of Fine Arts in Performing Arts/Theatre.

All candidates for the BFA degree must complete the following core courses: Theatre 254, Stage Makeup; Theatre 255, Costuming for the Stage; Theatre 645, Stage Lighting; and Theatre 218, Stage Movement or Dance 210, Ballet I.

Dance Major emphasis is placed on modern dance technique with strong supportive classes in ballet. Major course offerings include study in modern dance technique, ballet technique, choreography, dance history, performance and production, music for dance, repertory, lighting, make-up and costume. Additional courses are offered in methods of teaching and practice teaching, jazz, tap, ballet room and other dance forms. The Mid-America Dance Theatre presents at least two performance seasons annually and offers lecture demonstrations, master classes and informal concerts throughout the year. Membership into the company is by audition only.

Graduation Requirements

Dance majors must complete Dance 501, Modern Dance IV, and Dance 410, Ballet III. A minimum of 42 hours is required in modern dance and ballet with at least 24 of these hours in modern dance technique. All majors must take a minimum of five technique classes per week.

Advancement from one level of technique to the next is not automatic and will be by the instructor's consent or by audition. Students will be placed at the appropriate technical level upon admission to the program.

All majors present a senior concert to include one solo, one duet and one group dance and must perform in two of these three pieces. The total length of time for the senior concert should be between 20 and 25 minutes.

Bachelor of Fine Arts

The general graduation requirements of the University must be met as described in the Academic Information—Requirements for Graduation section of the Catalog. In addition, the following course requirements must be met.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
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<tbody>
<tr>
<td>Dance 201, Modern Dance Technique I</td>
<td>4</td>
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<tr>
<td>Dance 301, Modern Dance II</td>
<td>4</td>
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<tr>
<td>Dance 401, Modern Dance III</td>
<td>4</td>
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<tr>
<td>Dance 501, Modern Dance IV (Placement and advancement by audition and/or faculty consent only)</td>
<td>4</td>
</tr>
<tr>
<td>Dance 210, Ballet I</td>
<td>4</td>
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<tr>
<td>Dance 310, Ballet II</td>
<td>4</td>
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<tr>
<td>Dance 410, Ballet III</td>
<td>4</td>
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<tr>
<td>Dance 305, Choreography I</td>
<td>4</td>
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<tr>
<td>Dance 405, Choreography II</td>
<td>4</td>
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<tr>
<td>Dance 325Q, Dance History I</td>
<td>3</td>
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<tr>
<td>Dance 425Q, Dance History II</td>
<td>3</td>
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<tr>
<td>Dance 315, Music for Dance</td>
<td>3</td>
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<tr>
<td>Dance 505, Choreography III</td>
<td>3</td>
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<tr>
<td>Dance 605, Choreography IV</td>
<td>3</td>
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<tr>
<td>Dance 625, Repertory, or Dance 735, Mid-America Dance Theatre</td>
<td>3</td>
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<tr>
<td>Total</td>
<td>65</td>
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</table>

In addition to the above required courses, a minimum of 9 hours should be selected from the following theatre, music, art and dance courses with at least 3 hours in 3 disciplines. Thea. 143G, The Art of the Theatre; 243, Acting I; 244, Stagecraft; 263, Development of the Theatre I; or 264, Development of the Theatre II; Mus.-Comp. 160G, The Heritage of Western Music; 315, Music of the 20th Century; or 346, Styles of Jazz.

ArtHist. 122G, Survey of Western Art: Renaissance and Baroque; 124, Survey of Western Art: Modern; 525, 20th Century Art Before 1945; 526, Art Since 1945; or GD 135, Design I.

Dance 545, Methods of Teaching Dance; 645, Practice in Teaching Dance; 120, Jazz I; 220, Jazz II; 130B, Tap I; 130J, Advanced Tap; or 320, Performance.

The remaining hours should be selected to fulfill General Education Program requirements.

Lower-Division Courses

120. Jazz I. (1-2). Introduction to jazz technique, emphasizing work in body isolations, rhythmic patterns and directions, basic steps and history and development of jazz dance in America. Repeatable for credit. F 18 120 5 1008.

130. Varieties of Dance. (1-2). No previous experience in dance required. A different form of dance may be offered each semester. Repeatable for credit. F 18 130 5 1008.


201. Modern Dance Technique I. (2-3). Introduction to study of basic positions, body alignment, stretches and strengthening exercises; simple movement phrases are emphasized to develop understanding of direction, rhythm and dynamics. Repeatable for credit. F 18 201 5 1008.

210. Ballet I. (2-3). Introduction to basic technique, positions, basic steps, proper body alignment, classroom structure and etiquette and ballet vocabulary. Repeatable for credit. F 18 210 5 1008.

220. Jazz II. (1-2). Continuation of Dance 120 at intermediate/advanced level. Repeatable for credit. F 18 220 5 1008.

Upper-Division Courses

301. Modern Dance II. (2-3). Continuation of Dance 201 with emphasis on movement phrases, Intermediate level. Repeatable for credit. Prerequisite: instructor's consent or by audition. F 18 301 5 1008.

305. Choreography I. (4). Course will focus on improvisation and composition and will include instruction in production elements: lights, costumes, sets, props, publicity and video production. Students will be required to do compositional studies which may include time, space, energy, design, dynamics,
310. Ballet II. (2-3). Continuation of Dance 210. Intermediate level. Repeattable for credit. Prerequisite: instructor's consent or by audition. F 18 310 5 1008

315. Music for Dance. (3). Study of tempo, meter and quality of sound as applied to movement. Exploration of appropriate music repertoire for dance. Prerequisite: completion of two semesters of modern dance or ballet technique. F 18 315 5 1008

325. Performance. (1-3). Perform in choreography composed by students enrolled in choreography and/or performance and production classes. Prerequisite: instructor's consent or by audition. Credit hours to be determined by instructor. F 18 320 5 1008

325Q. Dance History I. (3). The development of dance up to the 20th century. Study of national origins and period dance movement styles. F 18 325Q 5 1008

401. Modern Dance III. (3). Continuation of Dance 301. Upper intermediate level. Repeattable for credit. Prerequisite: instructor's consent or by audition. F 18 401 5 1008

405. Choreography II. (4). Further work in improvisation, composition and production experience. Course culminates in a performance of solo works for an invited audience. Prerequisites: Dance 305 and concurrent enrollment in appropriate-level modern dance or ballet technique class. F 18 405 5 1008

410. Ballet III. (3). Continuation of Dance 310. Upper intermediate level. Repeattable for credit. Prerequisite: instructor's consent or by audition. F 18 410 5 1008

425Q. Dance History II. (3). Twentieth century dance emphasizing the emergence of ballet and later, modern dance. Study of major choreographers, performers, and dance companies. F 18 425Q 5 1008

Courses for Graduate/Undergraduate Credit

501. Modern Dance IV. (3). Continuation of Dance 401. Advanced level. Emphasis on professional technique and performance quality. Repeattable for credit. Prerequisite: instructor's consent or by audition. F 18 501 5 1008

505. Choreography III. (3). Course focuses on the choreographic process. Students create choreographic studies for more than one dancer utilizing elements studied in Choreography I and II and exploring different choreographic approaches. Further exploration may include environmental, chance, and collaborative choreographies and multimedia approaches. Students are encouraged to explore new approaches to accompaniment, such as live music, self-produced music, unusual or innovative sources. Prerequisites: Dance 405 and concurrent enrollment in appropriate-level modern dance or ballet technique class. F 18 505 5 1008

510. Ballet IV. (3). Continuation of Dance 410. Advanced level. Emphasis on professional technique and performance quality. Repeattable for credit. Prerequisite: instructor's consent or by audition. F 18 510 5 1008

545. Methods of Teaching Dance. (3). Course in developing teaching skills for elementary schools, high schools, recreation centers, private and professional schools and universities through lesson planning and in-class teaching practice. Prerequisite: Dance 401 or 410. F 18 545 5 1008

605. Choreography IV. (3). Further work on the choreographic process begun in Choreography III. The class produces a concert of the students' works at the end of the semester. Prerequisites: Dance 545 and concurrent enrollment in appropriate-level modern dance or ballet technique class. F 18 605 5 1008

635. Mid-America Dance Theatre. (1-6). The student company performs on campus and in the community and tours as the occasion arises. Prerequisites: members accepted by audition, which is open to community and University dancers. Concurrent enrollment in appropriate-level modern dance or ballet technique class is required. Mid-America Dance Theatre is repeatable for credit. F 18 635 5 1008

645. Practice in Teaching Dance. (3). Actual placement in teaching situation with responsibility of teaching ballet, modern and/or jazz in private studios, elementary, high school, Y's or recreation centers. Prerequisite: Dance 545. F 18 645 5 1008

690. Special Topics in Dance. (1-6). For individual or group instruction. Repeattable for credit with departmental consent. F 18 690 2 1008

750. Dance Workshop. (1-4). Repeattable for credit. F 18 750 2 1008

Theatre

Theatre offers a broad academic program, balanced by the extensive production schedule of the University Theatre—Mainstage, Experimental Theatre, Reader's Theatre and Summer Theatre, a professional stock company whose members are chosen by audition only.

Graduation Requirements

All theatre majors must participate in some area of the production of University Theatre plays, after consultation with faculty and staff. Candidates for the BFA must choose to follow a theatre performance track or a technical theatre and design track. In addition to the core courses, the following requirements must be met.

Theatre Performance Track

A minimum of 61 hours, including Theatre 143G, 180, 221Q; Dance 210 or Theatre 218, 222, 225, 230, 241, 243Q, 244, 259, 380, 450, 455, 542, 643, 651, 623Q, 624Q, 628, along with three hours chosen from the following: Theatre 516, 517, 559, 621, 375, 675.

Theatrical Theatre and Design Track

A minimum of 67 hours, including Theatre 143G, 180, 221Q, 243Q, 244, 259, 272, 380, 450, 544, 546, 623Q, 624Q, 626, 644, 647, 649, 657; Art History 121G, 122G or 124G; Studio Art 145 or 240, along with three hours chosen from the following: Industrial Theatre 130, Graphic Design 236, Theatre 375, 675.

BA, BEd and MA in Theatre

Theatre also offers a Bachelor of Arts degree and a Bachelor of Education degree. For the Master of Communication/Theatre, see Speech Communication.

The BA major requires a minimum of 39 hours, including Theatre 180, 221Q, 243Q, 244, 259, 254, 259, 380, 623Q, 624Q, 628, and at least 12 hours of electives, chosen with the adviser's consent from other theatre courses. All majors must participate in some area of the production of University Theatre plays, after consultation with staff and faculty members.

Students intending to teach have two options:

1. Theatre major. At least 39 hours, including Theatre 180, 221Q, 243Q, 244, 259, 254, 259, 380, 623Q, 624Q, 628, Speech/Comm 650 and 661, plus six hours of electives, chosen with the adviser's consent from other theatre courses.

2. Combined theatre/rhetoric and communication major. At least 39 hours, including Theatre 221Q, 243Q, 244, 259, Speech/Comm 111, 112, 211, 213C, 2280, 650, 661, plus six hours of electives, chosen with the adviser's consent from other theatre courses.

Students also must meet the requirements for the professional education sequence and prior to admission to the student teaching semester, must have a 2.500 grade point average in their major field and recommendation from the major department.

Lower-Division Courses

143G. The Art of the Theatre. (3). An introduction to the theatre as an art form with emphasis on critical appreciation from the viewpoint of the audience. The course is not counted toward a theatre major. F 19 143G 0 1007

180. Theatre Practicum. (1). Practical training in the organization and presentation of plays in the University Theatre program. The practicum may be organized in the following areas: design and construction of scenery, costumes or properties; the design and execution of stage lighting or makeup; and the organization and practice of theatre management. May be repeated once for credit. F 19 180 2 1007
Course is departmental consent. 

2210. Oral Interpretation. (3). Cross-listed as Spch. 2210. The development of the mental, vocal and analytical techniques essential to the oral interpretation of literature. F 19 2210 0 1007

222. Improving Voice and Diction. (3). Cross-listed as Spch. 222. A course for students wishing to improve their speaking voices and gain greater control over their pronunciation of spoken English. The course is ego-oriented; however, the anatomy of the vocal mechanisms and the International Phonetic Alphabet are studied for practical application in the improvement of voice and diction. F 19 222 0 1506

225. Expressive Voice for the Stage. (3). Course is designed to develop the individual ability to express thought and emotion on the stage through the effective use of the voice. Exercises, drills, poetic and dramatic readings will be used to improve the quality and effectiveness of the speaking voice. Prerequisite: Thea./Speech 222. F 19 225 0 1007

230. Dialects for the Stage. (3). The main focus of this course is to familiarize the student with certain regional American and foreign dialects. The course is intended to be a practical guide for the student actor who is called upon to reproduce a particular dialect for performance. Prerequisite: Thea./Speech 222. F 19 230 0 1007

241. Improvisational and Theatre Games. (3). The course is designed for the beginning student in theatre. Through exercises, analyses and readings, the course contributes to the training of the student actor's imagination, higher sense of stage presence and ability to develop the basic components of playtexts. F 19 241 0 1007

243G. Acting I. (3). Emphasis on the internal techniques of acting, on characterization and on the actor's analysis of the play and the role. F 19 243G 0 1007

244. Stagecraft. (3). R; L arr. Theory and practice of making, painting and using scenery for the stage. Practical work on University Theatre and Experimental Theatre productions. F 19 244 1 1007

253. Costuming for the Stage. (3); R; L arr. Basic principles of costume design and construction; pattern cutting, material selection, wardrobe management and organization; and theatrical experience with University Theatre and Experimental Theatre productions. F 19 253 1 1007

254. Stage Makeup. (1). Study and practice of the basic application of stage makeup. Also includes character analysis, anatomy, materials and special makeup techniques and problems. F 19 254 1 1107

256. Directing I. (3); R; L arr. Basic theory and principles of stage directing and problems of producing the play with practical experience gained by use of the project methods. Prerequisite: Speech 243Q or departmental consent. F 19 256 1 1007

272. Stage and Theatre Management. (3). Course is designed to acquaint students with the fundamentals of stage and theatre management. Students will study all technical aspects of production (budgets, schedules, properties, etc.). In addition to classroom projects, students will be required to work as a stage manager or an assistant stage manager for the experimental production. Prerequisite: sophomore standing. F 19 272 2 1007

Upper-Division Courses

375. Directed Projects in Theatre. (2-4). Independent research or practical and creative projects in the various areas of theatre, including performance, design, technical theatre, management and dramatic literature. Repeatable for credit to a maximum of four hours. Prerequisite: departmental consent. F 19 375 2 1007

380. Theatre Practicum. (1). Practical training in the organization and presentation of plays in the University Theatre program. The practicum may be organized in the following areas: design and construction of scenery, costumes or properties; the design and execution of stage lighting or makeup; and the organization and practice of theatre management. May be repeated once for credit. F 19 380 2 1007

450. Contemporary Theatre and Drama: Topics. (3). An investigation of the major developments and directions in theatre and drama since WW II. Students write in drama, acting, theatre architecture, design and production methods, as well as dramatic literature will be included. Repeatable for credit in different periods. Prerequisite: sophomore standing (60 hours) or above. F 19 450 0 1007

451. Portfolio Review. (1). A senior level course designed to help the technical theatre and design student prepare a formal portfolio in one or a combination of the design areas, as a resume and as an application for graduate school or future employment. Prerequisite: must be taken in graduating semester. F 19 451 0 1007

455. Senior Jury. (1). Course is designed for the graduating student in the performance track of the BFA in Theatre program. A performance and recital/ensembles is required. Prerequisite: senior standing. F 19 455 2 1007

Courses for Graduate/Undergraduate Credit

510. Design Project. (1). Advanced work in the problems of stage lighting design, costume design or scenic design. With the permission and supervision of the appropriate faculty member, the student will design for specific productions for either Mainstage or Experimental Theatre. Course is repeatable twice for credit if taken in different design areas. Prerequisite: instructor's consent. F 19 510 2 1007

516 & 517. Playwriting I and II. (3 & 3). Cross-listed as Eng. 517 and 518. The writing of scripts for performance. Emphasis is on both verbal and visual aspects of plotting. Instructor consent is required. F 19 517 0 1007 & F 19 517 1 1007

542. Advanced Acting. (3). Continued development of methods established in Thea. 243Q with an emphasis on contemporary and advanced acting techniques. Prerequisites: Thea. 243Q and sophomore standing. F 19 542 0 1007

544. Advanced Stagecraft. (3); R; L arr. A study of the principles of scale perspective and foreshortening applied to the stage with consideration of the elements of design and composition, light and shadow as employed in scene design. All elements of advanced stagecraft, including new materials and scenic techniques, are considered in this study. Prerequisite: study of a professional theatre. Students complete practical studio work in the design of settings for a variety of productions. They must complete at least one project for an advanced design including elevation drawing, water color, perspective, scaled model and a complete set of working drawings. F 19 544 0 1007

546. Scene Painting. (3). Course is presented as a brief study of the history of set decoration and basic techniques for creating an effective set design. The course deals with the construction of sets, the design of the set environment and the use of scenic materials and techniques. The course is intended to be a survey of the different techniques used for all areas of scenery, including proscenium and proscenium spaces. F 19 546 0 1007

559. Directing II. (3); R; L arr. Staging and rehearsal techniques with emphasis on the problems of the period and stylized plays. Prerequisites: Thea. 259 or departmental consent. F 19 559 0 1007

610. Musical Theatre for the Public School Teacher. (2). Provides an interdisciplinary course for the high school music teacher introducing the concepts of musical theatre (speech and music) to teach the student in both areas how to produce a musical in the secondary schools. F 19 610 0 1007

621. Advanced Oral Interpretation. (3). Intensive study and analysis of various forms of literature, the techniques of effective oral communication and the building of the individual or group concert recital. Arranged workshops and festivals. Prerequisites: Thea. 221Q and junior standing. F 19 621 0 1007

622. Academic Theatre Practicum. (2). The investigation and exploration of the theatrical act in the classroom situation within the University community. This course is designed to reinforce the researching, writing, directing and performing skills. Enrolled students, functioning as a company, produce and perform for various disciplines on campus. Repeatable once for credit. F 19 622 2 1007

6230. Development of the Theatre I. (3). The history of theatrical activity as a social institution and an art form, from its beginnings to the present. F 19 623Q 0 1007

6240. Development of the Theatre II. (3). From the 17th century to the present. F 19 624Q 0 1007

625. Dramatic Theory. (3). Critical examination of selected aesthetic theories of the theatre as they have developed in the West and of the theories to major dramatic works and theatrical periods. Prerequisite: Thea. 623Q, 624Q or departmental consent. F 19 625 0 1007

628. Playscript Analysis. (3). The course is designed to develop students' abilities to analyze playscripts from the point of view of those who face the task of staging them. The focus is on specific techniques of the practical methods of analysis developed by outstanding theatre directors, teachers and critics. Collective analysis and individual projects are part of the course. Prerequisites: Thea. 623Q or 624Q. F 19 628 0 1007

643. Styles in Acting. (3). Training in, and development of, the special techniques required for period or stylized plays with special emphasis on Greek, Shakespearean, Resto-
ration and modern nonrealistic styles. Prerequisites: Thea. 243Q, 542 and junior standing. F 19 643 0 1007

644. Scene Design. (3). Fundamentals of scene design. Practical work on University Theatre and Experimental Theatre productions is included. F 19 644 1 1007

645. Stage Lighting. (3). R; L arr. Lighting equipment and light design and its relation to scenery design. Emphasis is upon the problems in schools and colleges. Practical work on University Theatre and Experimental Theatre productions is included. Prerequisite: Thea. 244 with a grade of C or better. F 19 645 1 1007

Scene Design II. (3) A continuation of Scene Design I with more advanced work in designing settings for the stage and including studies in scenographic techniques and exercises in model building. The student will design settings for a production having a single set, a production requiring a simultaneous setting and a production using multiple settings. No laboratory work in theatre production is required. Prerequisites: Thea. 644 and 645. F 19 647 0 1007

649. Stage Lighting II and Theatre Sound. (3). Course continues the study and application of the theories and techniques of Stage Lighting I, emphasizing advanced concepts of design, and provides an introduction to theatre sound production. Prerequisite: Thea. 645. F 19 649 0 1007

651. Scene Study. (3). The course is designed as the synthesis of all previous acting courses. Scenes are studied in depth as preparation for performance. Course goal is the presentation of fully realized characterizations in those scenes studied, integrating the elements of the actor's craft learned in the prerequisite courses. Prerequisites: Thea. 643 and junior standing. F 19 651 2 1007

653. History of Costume. (3). R; L arr. Historical survey and individual research of dress from ancient Egypt to present day with emphasis on social, political, economic and religious influences. Theory and practice of adapting period styles to the stage. Prerequisite: Thea. 253 or departmental consent. F 19 653 0 1007

657. Costume Design I. (3). Course will cover the techniques of costume design for the stage. Students will strengthen and expand their knowledge of techniques in costume design for the stage, film and television. Prerequisites: Thea. 653; Art 121G, 122G or 124; and Art 240 or 333. F 19 657 0 1007

675. Directed Study. (2-4). Cross-listed as Spch. 675. Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent. F 19 675 3 1599

Courses for Graduate Students Only

820. Investigation and Conference. (2-3). Cross-listed as Spch. 820. Directed research and experimentation for graduate students in some phase of (a) public address, (b) theatre history and production, (c) radio-television or (d) the teaching of speech. Repeatable for credit up to a total of six hours. F 19 820 3 1599

823. History of Dramatic Criticism. (3). A survey and analysis of major critical theories from Aristotle to the present. F 19 823 0 1007

824. Development of Modern Theatre Styles. (3). An examination of the major movements in the modern theatre since 1870. Emphasis is on both literary and physical elements of styles. F 19 824 0 1007

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R; 2L means four hours of lecture and two hours of lab.
College of Health Professions

M. Diane Roberts, DPH, Dean

The College of Health Professions was established in 1970. Programs of study are offered in dental hygiene, gerontology, health care administration, health science, medical records administration, medical technology, nursing, physical therapy, physician assistant and respiratory therapy. The primary emphasis of the college's health education programs is the preparation of entry-level health professionals. Additionally, the college provides such services as emergency medical training, continuing education and graduate education for health professionals.

The curricula of the health professional programs build upon a solid foundation of courses from the liberal arts and sciences, education, health science and business. In addition to the on-campus academic experience, health professional students engage in learning in clinical settings as they care for patients and interact with clients of the health care system. All clinical programs are dependent upon the outstanding health care facilities within the city of Wichita and surrounding areas.

Programs in the college are accredited through the following agencies: the Council on Dental Education of the American Dental Association, the Commission on Accreditation in Education in Physical Therapy, National League for Nursing, the Association of University Programs in Health Administration and the Committee on Allied Health Education and Accreditation of the American Medical Association.

Degrees Offered

Undergraduate

Of the programs offered at the undergraduate level, five lead to the Bachelor of Science (BS) degree—health care administration, medical record administration, medical technology, nursing and physical therapy. The Bachelor of Health Science (BHS) degree offers the following emphases: (1) education, (2) administration and supervision or (3) natural or clinical sciences with specific preparation in health care majors.

In addition, the Associate of Science is awarded in dental hygiene and respiratory therapy. Students in the physician assistant and emergency medical training programs receive a certificate of completion.

Graduate

A graduate program leading to a Master of Health Science (MHS) degree with options for emphasis in administration, education or advanced clinical study is offered. Admission to the MHS program of study requires a bachelor's degree and the fulfillment of additional requirements.

A Master of Nursing program, individualized to meet the needs and professional goals of the student, is offered for part-time (three to six credits) or full-time study. Clinical concentrations are offered in adult nursing, maternal child nursing, psychiatric/mental health nursing and nursing administration. Role development in administration, teaching or advanced practice is also available.

More information on graduate programs is available in *The Wichita State University Graduate Bulletin.*

Policies

Admission

Students may be admitted to the College of Health Professions upon successful completion of 24 semester hours with an overall and WSU grade point average of 2.00 or above. Students seeking a bachelor's degree program in the college must have completed the basic skills requirement (English 101 and 102; Speech 111 or 112; and Math 109, 111, 112, 211 or equivalent) with a grade of C or better in all professional courses.

Students seeking admission to an associate degree program must have earned a C or better in the basic skills required for the specific program.

Admission to the college does not guarantee acceptance into any of the undergraduate professional programs. To be admitted to a professional program, students must be accepted into the Wichita State University and the College of Health Professions, apply for admission to a particular program and be accepted by the admissions committee of that program. See the individual programs for application procedures.

Probation and Dismissal

Students are placed on probation for the next term in which they enroll if their cumulative or WSU grade point average falls below 2.00. Students remain on probation even though they earn a 2.00 grade point average in the term during which they are on probation if their cumulative grade point average is not at least 2.00. Probation is removed when a student's cumulative grade point average meets the required academic level.

Students on probation may not enroll for more than 12 semester hours in the fall or spring semester, or five hours in the Summer Session, excluding one hour of military science or physical education. Exceptions to these limitations may be made on the recommendation of a student's advisor with the approval of the dean of the college.

Students on probation are subject to academic dismissal from the College of Health Professions if their grade point average for the semester during which they are on probation falls below 2.00. Dismissal will not occur until students fail to achieve a 2.00 grade point average for the last 12 hours attempted while on probation.

Students assigned to affiliating health facilities for clinical education will be subject to dismissal from the professional program for failure to comply with the rules, regulations or professional standards governing that facility.

Credit by Examination

Some of the programs in the College of Health Professions offer equivalency or competency examinations. By taking these exams, students may earn credit or receive advanced placement. To qualify for such exams, students must:

1. Be accepted into the program (major) in which the course is offered as part of the professional curriculum.
2. Meet any other equivalency requirements stated by the particular department. (See the appropriate department section in the Catalog.)

Exception to these requirements may be granted to nonmajors by the chairperson of the department offering the course with the approval of the College of Health Professions. Admission to the profession is the dean.

Students should check with their departmental advisers regarding eligibility and prerequisite requirements for this type of examination. Transcripts will identify the courses and credits received by students taking equivalency/competency examinations. Fees are assessed in advance, for the administration of the examinations.

Progression

To progress in the professional sequence, a grade of C or C+ or better must be earned in all professional courses. If students receive a C-, D or F in any one segment of a course that combines theory and clinical practice, they do not receive credit for the course. Students who receive an NCR, D or F in any professional course may not pro-
grees in the professional sequence and may be dismissed from the program. If their overall academic record remains at 2.00 or above and they desire to continue in the program, they may petition the Committee on Admission and Progress in their department to remain in the program.

Exceptions
Students may petition the department, college or University for exception to any requirement. Students are required to discuss all petitions with their college(department adviser prior to submission of the petition. Petitions may or may not be approved by the body to whom the petition was made.

Clinical Affiliation
The college, because of its location in Wichita, has affiliation agreements with various excellent health facilities. The college includes a wide variety of hospitals, long-term care facilities, public schools, private practitioners and community agencies.

Liability Insurance Requirements
Most students are required to purchase professional liability insurance (the specific level is determined by the professional program) as well as personal health insurance at the beginning of the professional phase of a College of Health Professions program.

Financial Aid
Scholarships and student loan funds are available for students in health professions. Information on these and other scholarships and loans is available from The Wichita State University Office of Financial Aid and the department from which the student is seeking a degree or certificate.

Cooperative Education
The College of Health Professions is one of the participating colleges in the University Cooperative Education Program. This program is designed to provide off-campus paid employment experiences that integrate, complement and enhance the student’s regular academic program while providing academic credit. Students are placed for field study experiences in a variety of health settings, including hospitals and community agencies. Individualized field studies are formulated in consultation with the student and the employer and are approved by the departmental faculty advisers and the cooperative education coordinator for the college. Participation in the program requires enrollment for credit in specific cooperative education courses designated by the various academic departments in the college; these undergraduate courses may have pre-requisites or other specific requirements for enrollment. To enroll in the program or for more information, students should contact the college cooperative education coordinator.

Graduation Requirements
All health professions students who are pursuing bachelor’s degrees must meet general University requirements and fulfill the course requirements specified in the curriculum of the department offering the degree.

A minimum of 30 credit hours in course work in residence at WSU is required for all students seeking bachelor’s degrees. A minimum of 30 unduplicated credit hours in course work in residence at WSU is required for students seeking second bachelor’s degrees. In addition, these students must also complete all University, college and departmental requirements for the degree being sought. Completion of University courses is counted toward fulfillment of the residency requirement. For specific requirements, consult the individual departmental sections of the Catalog.

Special Certificate Programs
The College of Health Professions offers certificate programs in basic emergency care training and physician assistant (see Physician Assistant). It cooperates with the College of Education in offering a certificate program for school nurses (see Nursing).

Basic Emergency Medical Care Training

Department of Health, Administration and Gerontology
A certificate in basic emergency medical care training is offered. The certificate is obtained with successful completion of HS 110.

Students who would like to enroll in this course must fulfill all requirements for admission to The Wichita State University and be at least 18 years old. An application to the Emergency Medical Training Admissions Committee must also be submitted. HS 110 classroom instruction encompasses anatomy and physiology, pathophysiology, emergency recognition and care of medical emergencies and trauma-related injuries. In addition, students spend ten hours of in-hospital observation in such areas as the emergency room, surgery, critical care units and the obstetric and psychiatric departments. A simulated automobile accident provides students with field experience in auto extrication. Successful completion of the five-credit-hour course meets the educational prerequisite for taking the state and/or national registry examinations for emergency medical technicians.

Degree Requirements and Course Listings

Dental Hygiene

Department of Dental Hygiene

Associate of Science
The associate program in dental hygiene provides students with a knowledge of the social, dental and clinical sciences and competencies needed by the dental hygienist in contributing to the attainment of good oral health for all people. Upon completion of the five-semester program (including one summer), students are eligible to take the national, regional and state examinations for licensure as dental hygienists. The Wichita State University program is accredited by the Commission on Dental Accreditation.

The Bachelor of Health Science degree is available to students who seek to expand their role in education or administration. Students interested in more information should contact the Department of Dental Hygiene.

Professional Curriculum

Admission. In addition to fulfilling all requirements for admission to the University, students wishing to enroll in the dental hygiene program must apply for, and obtain approval of, the Admissions Committee of the Department of Dental Hygiene. Acceptance into the College of Health Professions does not guarantee admission into the dental hygiene program. Persons interested in the dental hygiene program should direct their inquiries to the chairperson of the Department of Dental Hygiene, The Wichita State University, Wichita, Kansas 67208-1595.

To qualify for admission to the dental hygiene program, applicants must be high school graduates or have passed the General Education Development (GED) test.

Students must meet the following admission criteria. They must:
1. Have taken or be enrolled in Biol. 225, Human Anatomy; Chem. 103Q,
General Chemistry; Eng. 101, College English I; Psych. 111Q, General Psychology
2. Maintain a minimum grade point average of 2.000 in all college work
3. Complete The Wichita State University and College of Health Professions general admission requirements.

Students must also be interviewed and their admission approved by the department’s committee on admissions. The interview is used to determine a student’s motivation and interest, general understanding of the scope of the dental hygiene profession and of the dental hygiene profession and ability to communicate and listen.

If possible, students should obtain experience or observe in a dental office prior to or concomitant with their application to the dental hygiene program.

Curriculum. The following courses, totaling 79 to 84 hours, must be taken by dental hygiene students.

Course Hrs.

**Prequisite courses for admission to the dental hygiene program:**

- Biol. 225, Human Anatomy ........................................3
- Chem. 103Q, General Chemistry ..................................5
- Eng. 101, College English I ........................................3
- Psych. 111Q, General Psychology ..................................3

**Plus the following:**

- Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication ..................3
- Soc. 111Q, Introduction to Sociology ............................3
- Biol. 120Q, Introduction to Microbiology .........................4
- Biol. 226, Human Physiology .......................................3
- DH 101, Preclinical Dental Hygiene ..............................5
- DH 104, Clinical Radiology .........................................4
- DH 201, Dental Hygiene Concepts I ..............................2
- DH 202, Clinical Dental Hygiene I ...............................3
- DH 206, General and Oral Pathology ..............................3
- DH 290, Embryology, Histology and Oral Anatomy ............3
- DH 301, Dental Materials and Expanded Functions ...........3
- DH 302, Clinical Dental Hygiene II ...............................2
- DH 303, Dental Hygiene Concepts II .............................2
- DH 304, Dental Hygiene Concepts III ............................2
- DH 305, Periodontics ..................................................3
- DH 307, Ethics and Jurisprudence ..................................3
- DH 309, Community Dental Health Education .................3
- DH 311, Dental Health Education ..................................2
- DH 323, Clinical Dental Hygiene III .............................3
- DH 324, Clinical Dental Hygiene IV ..............................2
- DH 310, Introduction to Research for the Health Professions ..2
- HS 301, Pharmacology ................................................3
- HS 315, Head and Neck Anatomy ..................................2

**HS 331Q, Nutrition ..................................................3
RT 102, Cardiopulmonary Resuscitation ..........................1

Special Requirements

Students are required to purchase uniforms and instruments needed during clinical learning experiences. Students also are required to purchase professional liability insurance in the amount of not less than $200,000/$600,000. This must be done on a yearly basis. In addition, students are required to provide their own transportation to and from the health care agencies used for clinical experiences.

Information related to special requirements is available to students in the office of the Department of Dental Hygiene, The Wichita State University, Wichita, Kansas 67208-1595.

Lower-Division Courses

101. Preclinical Dental Hygiene. (5). 3R; 6L. A presentation of the basic philosophy of dentistry and dental hygiene. Consideration is given to measures that can be employed to prevent oral disease and promote dental health. Laboratory instruction is given in the use of instruments for removal of deposits from the teeth. Offered only in the fall semester. Prerequisite: departmental consent. H 12 101 1 1213

104. Clinical Radiology. (4). 3R; 3L. A presentation of the theory and practice of exposing, processing and mounting X-ray films. The laboratory periods are used to gain proficiency in X-ray techniques. Care of the equipment is stressed. Prerequisite: departmental consent. H 12 104 1 1213

201. Dental Hygiene Concepts I. (2). Fundamentals of planning and delivering dental hygiene treatment are presented with an emphasis on patient education for plaque control, integration and expansion of material presented in previous courses and the application of this material to the treatment situation will be stressed. Offered only in the spring semester. Prerequisite: departmental consent. H 12 201 0 1213

202. Clinical Dental Hygiene I. (3). 12L. This course emphasizes providing patient care in a clinical setting. Basic instrumentation techniques as well as the prevention of dental disease is stressed. Patient evaluation and planning skills are developed. Offered only in the spring semester. Prerequisite: departmental consent. H 12 202 1 1213

206. General and Oral Pathology. (3). A survey of general pathology of tissues and organs of the human body. Discussions are held on dental pathology of the teeth, dental pulp and oral tissues. A consideration of the signs, symptoms and manifestations of oral diseases is accomplished through lectures and visual aids. Offered only in the fall semester. Prerequisite: departmental consent. H 12 206 0 1213

281. Cooperative Education Field Study, (1-8). The goal of this course is to provide the student with a field placement which integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Prerequisite: completion of the freshman year and satisfactory academic standing. Prerequisites: assigned by the department. M ay be repeated for credit. H 12 281 2 1213

290. Embryology, Histology and Oral Anatomy. (3). A study of the development and microscopic anatomy of the elementary tissues and organs. Explanation of tissue development, growth, arrangement, function, and morphology and characteristics. Prerequisite: departmental consent. H 12 290 0 1213

Upper-Division Courses

301. Dental Materials and Expanded Functions. (3). 2R; 3L. Fundamental instruction in the preparation of laboratory phases of modern technology and the manipulation of materials and equipment used in dental practice and expanded auxiliary practice. Prerequisites: departmental consent. H 12 301 1 1213

302. Clinical Dental Hygiene II. (2). Continuation of the study of clinical procedures designed to prevent, treat, and control oral disease as well as the preparation of advanced dental hygiene student for clinical duty. Prerequisites: departmental consent. H 12 303 0 1213

304. Dental Hygiene Concepts III. (2). Discussion of general specialities and the rationale for treatment prescribed by the dentist. Offered only in the spring semester. Prerequisite: departmental consent. H 12 304 0 1213


307. Ethics and Jurisprudence. (2). A survey of laws governing the practice of dentistry and dental hygiene; types of professional work for which students may qualify; the economics and ethics of the profession; the essentials of business and personnel management and patient records. Offered only in the spring semester. Prerequisite: departmental consent. H 12 307 0 1213

309. Community Dental Health Education. (1). An introduction to the foundations of dental health in the community, epidemiology, health care systems and organization of community services with the emphasis on the learned concepts. Prerequisite: departmental consent. H 12 309 0 1213

311. Dental Health Education. (2). This course will cover the professional philosophy and foundation of dental health education. Students will develop dental health education materials and presentations will be given to children, adults and minority groups in the community. H 12 311 0 1213
To provide a specially designed field experience for students, including Geron. 1000, 303, 404, 501, 513, and 518; and 12 hours of electives approved by the gerontology program adviser from listed courses.

The bachelor's degree minor in gerontology requires at least 15 hours, including Geron. 1000; nine hours selected from Geron. 303, 304, 513 and 518; and three hours of electives from the listed courses.

The gerontology major combines multidisciplinary academic preparation with application of classroom knowledge through a field placement in the community. This internships experience is designed to permit the student to apply and test ideas developed in the classroom and to tailor the student's career interest.

For more information about the major's degree in gerontology, refer to the Wichita State University Graduate Bulletin.
820. Thesis. (1-3). Repeatable, but total credit hours counted toward degree shall not exceed four hours. P 15 820 4 2201

Health Care Administration

Department of Health, Administration and Gerontology

Bachelor of Science in Health Administration

The program in health care administration seeks to develop professionally competent individuals to serve in administrative capacities in the health field. Health care administrators are employed in a variety of health facilities and organizations—hospitals, nursing homes, medical group practices and public clinics, health insurance organizations, educational institutions and governmental agencies at federal, state and local levels. The program is an approved member of the Association of University Programs in Health Administration. Upon satisfactory completion of the courses as outlined, plus eight weeks of practicum in a selected area, students receive the Bachelor of Science degree. Additional information regarding the selected areas of special emphasis can be obtained from the chairperson of the Department of Health, Administration and Gerontology.

Admission

In order to be admitted to the health care administration curriculum, students must fulfill the following requirements. They must:

1. Be enrolled in or admitted to The Wichita State University
2. Have completed 45 hours in the required lower-division courses, including 9 hours of basic courses
3. Have an overall grade point average of 2.000 or above in all college work completed and no grade lower than C in all required courses
4. Submit to the chairperson of the Health Administration department a letter of intent including semester of enrollment intent to enroll forms may be obtained from the Department of Health, Administration and Gerontology, Room 401, Ahlberg Hall.

Curriculum

Undergraduate

Major. The following courses, totaling 124 hours, are required for a major in health care administration. This curriculum meets both the University's general education and the program's requirements. All undergraduate students are strongly encouraged to take HAE 503 before taking other health administration courses.

Course Hrs.
Basic Skills courses (12 hours)*
Communications (9 hours) 3
Eng. 101, College English I 3
Eng. 102, College English II 3
Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication 3
Distribution Courses (30 hours)
Division A, Humanities and Fine Arts (at least nine hours in three different departments and at least five hours in General Studies courses) 3
Division B, Social and Behavioral Sciences (at least six hours in two different departments) 3
Math. 111, College Algebra or equivalent 3
Biol. 105G, The Human Organism (4) or any higher level biology course 4
Other required courses
Acctg. 210, Financial Accounting I 3
Acctg. 220, Managerial Accounting I 3
CS 105, Introduction to Computers 3
HS 705, Health Systems Research 3
Mgmt. 360, Concepts of Administration 3
Mkt. 300, Marketing 3
Pers. 466, Personnel Management 3
HAE 410, Community Health Concepts 3
HAE 440, Health Care Administration Practicum 3
HAE 503, Organization of the Health Care System 3
HAE 504, Health Economics 3
HAE 507, Health Planning 3
HAE 509, Health Care Operations Analysis 3
HAE 510, Health Finance 3
HAE 580, Legal Aspects of Health Care Administration 3
HAE 605, Health Services Research 3
HAE 684, Health Administration Policy 3
HAE 685, Computer Applications in Health 3
481. Cooperative Education Field Study. (1-8). The goal of this course is to provide the student with a field placement which integrates theory and professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 24 490 3 1202

510. Health Finance, (3). An examination of the principles of financial analysis and management for health care institutions. Emphasis is placed on understanding the general financial concepts to the health setting. Financial organization, sources of operating revenues, management of working capital and budgeting are utilized with practical examples for hospitals and other health organizations. Prerequisites: HAE 503 and Acctg. 210 or equivalent. H 24 510 0 1202

555. Concepts of Quality Assurance in Health Care, (3). This is a course for health care personnel which focuses upon current social issues concern with improving the quality of health care and appropriate utilization of activities and resources. Prerequisite: departmental consent. H 24 565 0 1202

605. Health Services Research, (3). Dealing with intermediate statistical procedures and research designs that health professionals must understand in order to intelligently analyze research in the health care field and to conduct research themselves. This course covers the designs of experimental, survey and ex post facto research, plus statistical techniques, including correlation coefficients, the t test, chi square and two-way analysis of variance. Prerequisite: departmental consent. H 24 605 4 1201

684. Health Administration Policy, (3). A course designed to give graduating seniors an understanding of the structure of health care organizations, including the various roles and responsibilities managers have within the organizations. Exposure to management, policy making and strategic planning processes is vital if students are to function in administrative positions within the health care field. Prerequisite: HAE 503 and at least one other HAE course or department consent. H 24 684 0 1202

685. Computer Applications in Health, (3). Data reduction, summarization, editing and analysis using technical assistance of microcomputers must be understood in order to intelligently conduct research. All computations are conducted using a microcomputer. More emphasis is placed on microcomputers than on large computers with more statistical and graphical capacity. Prerequisite: HAE 605 or instructor's consent. H 24 685 0 1201

720. Community Health Organization and Administration, (3). Introduction to the organization and activities in the health system—roles and problems. Introduction to administrative problem-solving as a structured process. Prerequisite: instructor's consent. H 24 720 0 1201
725. Health Care Marketing. (3). This course in marketing/management for health services examines the problem of organizational response to consumer desires and needs. Consumer behavior and development of marketing mix, product policy and market strategy appropriate to the specific situations of various health care institutions are covered. Prerequisite: Mkt. 830 or equivalent or departmental consent. H 24 725 0 1202

808. Epidemiology of Chronic Disease. (3). The study of the distribution and determinants of chronic diseases and injuries in human populations. The frequencies and types of illnesses and injuries in groups of people and the factors that influence their distribution. Prerequisites: graduate school enrollment, HAE 605 or instructor's consent. H 24 808 0 1201

810. Health Care Financial Management. (3). Designed to give state-of-the-art techniques in health care accounting and to provide valuable background in economic theories and applications in health care. Prerequisite: instructor's consent. H 21 810 0 1202

Health Science

Department of Health, Administration and Gerontology

A variety of applied/clinical courses in the basic health sciences are offered. These courses are applicable to several departments within the college at the undergraduate and graduate levels.

The programs leading to the Bachelor of Health Science and the Master of Health Science are administered by the Department of Health, Administration and Gerontology. The bachelor's degree curriculum is currently under revision; specific information can be acquired from the Department of Health, Administration and Gerontology. For more information about the master's degree program refer to the Wichita State University Graduate Bulletin.

Lower-Division Courses

101. Emergency Care: First Responder. (3). This course is designed specifically to meet the needs of the general public who respond to the initial care of emergency situations in the home or in public areas. Participants learn to provide vital, stabilizing and often urgent life support care prior to the arrival of ambulance personnel. Also, students are certified in basic cardiopulmonary resuscitation according to the standards of the American Heart Association. Prerequisite: departmental consent. H 18 101 2 1201

110. Basic Emergency Medical Care Training. (5). 4R; 2L. Principles of basic emergency medical care are identified. Classroom instruction includes anatomy, physiology and emergency recognition and care of medical emergencies and trauma-related injuries. Practice and discussion provide the opportunity to apply these principles. Students also spend ten hours in hospital observation. Prerequisite: department or instructor's consent. H 18 110 1 2101

150. Workshop in Health Sciences. (1-4). H 18 150 2 1201

201. Orientation to Health Professions. (2). An examination of the health team concept, the role and relationship of the various providers of health care and the criteria for the selection of a health career. Emphasis is placed on the health team concept. H 18 201 0 1201

230. Clinical Anatomy of the Thorax. (1). 1R; 2L. Fall semester. Presents the structure and mechanisms of the thorax, including neuromuscular, skeletal, cardiovascular and respiratory systems. Laboratory includes use of human cadavers and models. Prerequisites: respiratory therapy major and instructor's consent. H 18 230 1 0412

231G. Current Issues in Food and Nutrition. (3). A survey course that examines the various controversies, facts and misconceptions surrounding nutrition and health, the cultural and historical aspects of food in America and the political aspects of food and farm policy. The course includes the basic nutrition principles that are needed to fully understand the issues discussed. H 18 231G 0 0424

Upper-Division Courses

301. Clinical Pharmacology. (3). A survey of therapeutic terms, drug actions, dosage, toxicology and application of drugs in the clinical setting. H 18 301 0 1201

310. Gross Anatomy, Section A: (3). Section B: (6). 3R; 9L. A study of the structure of the human body, including orientation on the skeletal and muscular systems. Laboratory (Section B) includes dissection of human cadavers. Open to nonphysophysical therapy majors. Prerequisite: departmental consent. H 18 310 1 0412

315. Head and Neck Anatomy. (2). An in-depth study of the landmarks, muscles, nerves, vascular supply, etc., of the head and neck region. H 18 315 0 1201

331Q. Principles of Diets and Nutrition. (3). A study of human dietary and nutritional needs in the clinical setting. Composition and classification of foods, vitamins and their function; food and public health laws; and nutrition under special conditions are covered. Credit for depth of application of dietary and nutrition principles is given. H 18 331Q 0 0424

365. Health Care Team Concepts. (1-6). A seminar and practicum course designed to provide opportunity for health professionals to share experiences as members of the health care team. Depending on the number of credit hours needed for students within their program. Prerequisite: instructor's consent. H 18 365 2 1201

388. Clinical Anatomy. (3). Fall semester. A course designed to further the understanding of the health professional in a comprehensive and/or specific area of human anatomy. Emphasis is placed on the human anatomy of the thorax, abdomen, pelvis, head and neck. Prerequisites: BS 225 or equivalent, instructor's consent and enrollment in one of the professional programs. H 18 388 0 0412

389. Clinical Anatomy. (3). Spring semester. A continuation of HS 388 with emphasis on the human anatomy of the genital-urinary, neuromusculoskeletal system and neuroanatomy. Prerequisites: H 388, instructor's consent and enrollment in one of the professional programs. H 18 389 0 0412

390. Clinical Physiology. (1-2). A course designed to further the understanding of the health professional in a comprehensive and/or specific area of human physiology and the clinical application of this knowledge in patient management. Depending on the number of credit hours needed for their program and offer them under this course number with a designated subsection. Prerequisites: instructor's consent and enrollment in one of the professional programs. H 18 390 0 0410

400. Introduction to Pathophysiology. (3). Cross-listed as Nurs. 400. A course for professional upper-division students enrolled in the College of Health Professions. The course focuses on the essential mechanisms of disordered function which produce common diseases. Some common diseases are discussed, but in examples, the basic processes covered, not as an exhaustive inventory. The purpose of the course is to present the health professional with accessible, usable and practical information that they can bring into the clinical or laboratory experience, or use as a basic pathophysiology course before taking the more specific professionally related pathophysiology course. Prerequisites: instructor's consent or enrollment in upper-division CHP professional courses. H 18 400 0 1201

401. Advanced Clinical Pharmacology. (3). An advanced study of clinical pharmacology, pharmacognosy and pharmacodynamics that includes drug synergisms and side effects. Prerequisites: HS 301 and instructor's consent. H 18 401 0 1201

411. Special Projects. (1-6). Supervised intensive study of special topics and problems related to health professions by arrangement. Prerequisites: department chairperson's consent. H 18 411 3 1201

421. Applied Clinical Pharmacology I. (3). A course designed to provide the student with a practical knowledge of pharmacotherapeutics. Emphasis is placed on the pharmacodynamic and toxicologic properties of chemotherapeutic agents and drugs affecting the cardiovascular and autonomic nervous systems. Prerequisites: current enrollment in HS 390 and instructor's consent. H 18 421 0 1201

422. Applied Clinical Pharmacology II. (3). Emphasis on drugs affecting the excretory, endocrine and central nervous systems. Prerequisites: HS 421 and instructor's consent. H 18 422 0 1201

430. Introduction to Fluids and Electrolytes. (2). Concepts of fluid and electrolyte balance in health and disease. Included are discussions of clinical cases of diagnostic and therapeutic interest. Prerequisites: Chem. 103Q, Biol. 226 or equivalent and departmental consent. H 18 430 0 1201

450. Workshop in Health Sciences. (1-4). H 18 450 2 1201

Courses for Graduate/Undergraduate Credit

501. Instructional Design in Health Education. (3). A course designed to assist health professionals in constructing health science curriculum. Emphasis is given to identifying various curriculum models and applying educational principles, writing behavioral objectives and the acquisition of supplementary materials. Special emphasis is given to program development in school, community and
1201. Seminar in Health Science. (1). Recent developments and issues affecting the financing, organization and management of health care resources in both the public and private sector of our nation's medical care system. Prerequisite: H 701 or departmental consent. H 18 800A 9 1201

800B. Seminar in Health Education. (1). Current trends and directions in allied health education in both patient care and academic settings are covered. Prerequisite: H 701 or departmental consent. H 21 800B 9 1201

810. Practicum/Project. (3). The course is designed to enhance and complement the academic experience of students pursuing the Master of Health Science degree. This learning experience provides an opportunity to link the student's academic studies with actual practice in direct observation and supervised participation of the administrative/educational process in a selected health care organization. Students participating in this experience carry out their assigned tasks under the guidance and direction of a faculty member of the College of Health Professions. Along with the faculty person, the student may also be under the direction of a field instructor/preceptor from the host agency. H 18 810 2 1201

895. Thesis. (1-3). Repeatable to a maximum of six hours. Prerequisite: consent of thesis adviser. H 18 895 4 1201

Medical Record Administration Program

Department of Health, Administration and Gerontology

Bachelor of Science in Medical Record Administration

The Bachelor of Science program in Medical Record Administration, offered through the Department of Health, Administration and Gerontology, is designed to prepare administrators and health information coordinators for medical record departments. After completing a three-year preprofessional sequence at The Wichita State University, students must transfer to the Department of Medical Record Administration at The University of Kansas Medical Center (KUMC) to complete the professional sequence. The professional sequence includes directed practice and clinical application which may be taken at hospitals or other health institutions that are officially affiliated with The University of Kansas Medical Center and that are approved by the American Medical Record Association. After completing these requirements, students receive the Bachelor of Science (BS) in medical record administration from The Wichita State University and are eligible to become registered by successfully completing the registration examination given by the American Medical Record Association.
Preprofessional Curriculum

Course                                  Hrs.
Communications (12 hours)                3
Eng. 101, College English I               3
Eng. 102, College English II              3
Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication 3
Eng. 210, Technical Writing Composition  3

Distribution Courses (30 hours of which
at least nine hours must be taken in
General Studies courses)
Division A, Humanities and Fine Arts (at
least nine hours in three different de-
partments)

Division B, Social and Behavioral
Sciences (at least six hours in two
different departments)
Econ. 201Q, Principles of Economics I     3
Psych. 111Q, General Psychology          3
Psych. 514, Psychology of Illness        3
Soc. 111Q, Introduction to Sociology    3
Soc. 538, Medical Sociology             3

Division C, Math and Natural Sciences
(or six hours in two different departments)
Math. III, College Algebra (or equivalent) 3
Biol. 105G, The Human Organism (4) or any higher level biology course 4
Biol. 225, Human Anatomy (with lab)      3
Biol. 226, Human Physiology              3
Biol. 227, Physiology Lab                1
Plus five additional hours chosen from
biology, chemistry or physics

Other required courses
B. Law 1300, Introduction to Law        3
IS 704, Introduction to Education Statistics  3

Recommended electives
CS 105, Introduction to Computers        3
Mgmt. 360, Concepts of Administration   3
Pers. 466, Personnel Management          3
HAE 410, Community Health Concepts       3
HAE 503, Organization and Ad-
administration of the Health Care System 3
HAE 504, Health Economics               3
HAE 505, Politics of Health              3
HAE 507, Health Planning                3
HAE 509, Health Care Operations
Analysis                                    3
HAE 590, Legal Aspects of Health Care Administration   3

Additional hours of electives to total 80
hours of preprofessional courses

Admission to Professional
Curriculum
Students who have taken their college
work at The Wichita State University or at
another accredited college or university
may apply for transfer into the fourth year
of the program conducted at The Uni-
versity of Kansas Medical Center in
Kansas City, Kansas. Applications must
be received by October 1 of the stu-
dent's junior year so that a January re-
view can be made and the student noti-
tified of acceptance into the program
that begins in June. Each student must:
1. Submit official transcripts of high
school and college work from each in-
stitution attended
2. Have a minimum grade point
average of 2.500
3. Be accepted by the KUMC admis-
sions committee.

A total of 132 credit hours, including
80 credit hours in the preprofessional
curriculum and 52 credit hours in the
professional curriculum, is required for
graduation.

Medical Technology

Department of Clinical Sciences
The medical technologist performs a va-
riety of clinical laboratory procedures
needed by the physician to give accu-
rate diagnosis, prognosis and proper
treatment to the patient. The medical
technology program is designed to give
students thorough scientific training and
education. This knowledge enables
them to know not only how to perform a
test, but also the theory behind it.

Bachelor of Science in Medical
Technology
The Bachelor of Science program in
medical technology, requiring a total of
133 hours, includes 78 hours of pre-
technology curriculum in the
basic sciences, social sciences, hu-
manities and communication. The Uni-
versity-based program includes struc-
tured lecture and laboratory experiences
in the University's student clinical labo-
atory as well as in the program's affili-
ated laboratories: St. Joseph Medical
Center, HCA Wesley Medical Center, the
Wichita Clinic and the Veterans Admin-
istration Medical Center, Wichita; William
Newton Memorial Hospital, Winfield; and
Hutchinson Hospital Corporation, Hutchin-
sion. In addition, experience is
received in small clinic laboratories
through a one-week rotation at Internal
Medicine Associates and The Labora-
tory, Inc. in Wichita. Upon successful
completion of the program, students are
granted the Bachelor of Science in
medical technology and are eligible to

take several national certification exa-
iminations.

Preprofessional Curriculum

Course                                  Hrs.
Basic Skills (12 hours)                  3
Eng. 101, College English I              3
Eng. 102, College English II             3
Speech 111, Basic Public Speaking, or Speech 112, Interpersonal Communication 3
Math. 111, College Algebra               3
Division A, Humanities and Fine Arts (9
hours)*
Nine hours in at least three dif-
ferent departments                      9
Division B, Social and Behavioral
Sciences (6 hours)
Psych. 111Q, General Psychology         3
Electives                                3
Division C, Natural Sciences and Math-
ematics (46 hours)
Biol. 203Q, Organismal Biology           5
Biol. 204, Cellular Biology              5
Biol. 226, Elementary Human Physiology  3
Biol. 330, General Microbiology          5
Chem. 111Q, General Chemistry           5
Chem. 112Q, General and Inor-
ganic Chemistry                         5
Course coverage in organic
chemistry (Chem. 531, five
hours, or Chem. 533 and 534,
five hours)                               5
Chem. 561, Introduction to Bio-
chemistry or HS 400, Introduc-
tion to Pathophysiology                 3
MT 405Q, Medical Immunology             3
Electives from areas of health
science, biological sciences, chemis-
try, physics, mathematics or others as
approved by Department of Clinical
Sciences (including four hours of "G"
and/or "Q" courses)                      7

* Students may wish to select General Studies courses to

satisfy the University graduation requirement of

General Studies courses (See Academic Information-General

Studies section of the Catalog).
† May substitute Chem. 1320-1324Q, General and Analyti-

cal Chemistry (10 hours), if prerequisites are met. Check with

advisor.

Admission to the Professional
Curriculum
Applications should be submitted to the
Department of Medical Technology by
June 1 for fall entry, November 1 for
spring entry, and April 1 for summer
entry.

To qualify as a candidate for admission

to the professional phase the student
must:
1. Be admitted to The Wichita State

University.
2. Be in the process, or have completed, the preprofessional requirements.
3. Submit application to department.
4. Submit three letters of recommendation.
5. Have a minimum GPA of 2.00.
6. Complete professional goal statement.

Acceptance into the professional phase of the program is determined by the Medical Technology Admissions Committee.

Professional Curriculum

<table>
<thead>
<tr>
<th>Course</th>
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<td>MT 406, Foundations of Laboratory Practice</td>
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<td>MT 450, Clinical Chemistry I</td>
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<td>MT 452, Analysis of Body Fluids</td>
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<td>MT 456, Clinical Chemistry II</td>
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<td>MT 459, Applied Clinical Chemistry</td>
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<td>MT 460, Hematology I</td>
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<td>MT 461, Hematology I Laboratory</td>
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<td>MT 462, Hemostasis</td>
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<td>MT 467, Hematology II Laboratory</td>
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<td>MT 470, Immunohematology I</td>
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<td>MT 476, Immunohematology II</td>
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<td>MT 477, Immunohematology II Laboratory</td>
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<td>MT 479, Applied Immunohematology</td>
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<td>MT 480, Clinical Immunology I</td>
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<td>MT 489, Applied Clinical Techniques</td>
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<td>MT 494, Special Topics in Clinical Microbiology</td>
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<td>MT 496, Clinical Microbiology II</td>
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<tr>
<td>MT 497, Clinical Microbiology II Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>MT 498, Applied Clinical Microbiology</td>
<td>3</td>
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</tbody>
</table>

Other Requirements

Students must purchase laboratory jacket/coat for use during their clinical laboratory assignments and are required to provide their own transportation to the clinical sites. Students are required to purchase professional liability insurance in the amount of not less than $100,000/$300,000. Students must provide evidence of a completed physical examination, including a tuberculin skin test and rubella titer, prior to their clinical assignments in the affiliate laboratories.

Lower-Division Courses

160Q. Introduction to the Clinical Laboratory Sciences. (2). 1R; 2L. A study of clinical laboratory disciplines, including hematology, immunohematology, chemistry, microbiology, cytochemical and histology, through an examination of laboratory testing in each discipline with consideration of the role of the clinical laboratory in the health care system. This course is suitable for majors to explore career selection and nonmajors who come in contact with clinical laboratories either as a health professional or as a consumer. H 14 160Q 1 1223

281. Cooperative Education. (1-6). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and the cooperative education coordinator. Repeatable for credit. Prerequisites: basic requirements for admission include successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. H 14 281 2 1223

310. Clinical Laboratory Services. (2). 2R, 3L. This course is an overview of the services and information provided by the clinical laboratory. Basic procedures and interpretation of data will be emphasized. Prerequisite: admission to a professional phase of a CHP program and/or instructor's consent. H 14 310 2 1223

400. Special Topics. (2). A study of the principles and methodologies of laboratory management and processing techniques applicable to the clinical laboratory sciences. Prerequisite: departmental consent. H 14 400 2 1223

4050. Medical Immunology. (3). An introduction to the study of immunological concepts as they apply to the study, prevention, and control of the disease process. Prerequisite: Biol. 226. H 14 405Q 2 1223

406. Foundations of Laboratory Practises. (2). An introduction to clinical laboratory skills and instrumentation. Topics include laboratory safety, specimen collection and processing, and proper use and care of the microscope. Prerequisite: departmental consent. H 14 406 0 1223

411. Special Topics. (1-6). Supervised intensive study of special topics and problems related to health professions. Repeatable to a maximum of six hours. Prerequisite: department chairperson's consent. H 14 411 3 1201

450. Clinical Chemistry I. (3). This course is the study of basic clinical chemistry. It encompasses the study and application of clinical chemistry calculations and quality control and the study of colorimetric, spectrophotometric, and titrimetric analysis and techniques on serum, plasma and other body fluids. Prerequisites: Chem. 536 and 541. H 14 450 0 1223

451. Clinical Chemistry I Laboratory. (2). 6L. Application of the theory of the procedures and techniques used for colorimetric, spectrophotometric and titrimetric analysis of serum plasma and other body fluids for clinically significant substances. H 14 451 1 1223

452. Analysis of Body Fluids. (3). 2R; 3L. This course includes the study of renal physiology, routine urinalysis and renal function tests. It also encompasses the principles and techniques involved in the analysis of cerebrospinal fluid, feces, gastric fluid, synovial fluid, amniotic fluid, ascitic fluid, duodenal fluid, salivary fluids and seminal fluid. H 14 452 1 1223

456. Clinical Chemistry II. (3). Included in this course are advanced instrumentation principles and techniques, acid-base balance, advanced enzymology, endocrinology and toxicology. Emphasis is placed on relationships between substances of the body and procedural development and evaluation. Prerequisites: MT 450, 451 or departmental approval. H 14 456 0 1223

457. Clinical Chemistry II Laboratory. (2). 6L. A course covering the application of the principles of technique appropriate to the evaluation of clinical chemistry. Prerequisite: concurrent enrollment or department approval. H 14 457 1 1223

459. Applied Clinical Chemistry. (3). Application of clinical chemistry procedures and techniques in the analysis of body fluids in a clinical laboratory setting. Prerequisites: MT 450, 451 or concurrent enrollment and/or departmental consent. H 14 459 2 1223

460. Hematology I. (2). The course emphasizes the clinical significance of laboratory data and its correlation with pathologic processes. Prerequisite: MT 460, 461 and departmental consent. H 14 460 0 1223

461. Hematology I Laboratory. (2). 3L. The course emphasizes the theory underlying basic procedures performed in the hematology laboratory and the relationship between these procedures and the diagnosis of disease. Prerequisites: MT 460, 461 and departmental consent. H 14 460 1 1223

462. Hemostasis. (3). 2R; 3L. The course emphasizes the principles and techniques used in the hematology laboratory for diagnosis of anemias and various white cell disorders such as leukemia. Prerequisites: MT 466 or concurrent enrollment and departmental consent. H 14 462 1 1223

467. Hematology II Laboratory. (1). 3L. Emphasis is on special testing procedures used in the hematology laboratory for diagnosis of anemias and various white cell disorders such as leukemia. Prerequisites: MT 466 or concurrent enrollment and departmental consent. H 14 467 1 1223

489. Applied Hematology. (3). Application of the theory and technical skills of hematology in a clinical laboratory. Prerequisites: MT...
470. Immunohematology I. (3). An introduction to blood banking theory pertinent to assurance of quality transfusion practices in a donor service, including selection, collection, processing and component therapy, and to a transfusion service, including application of immunology and genetics to blood group systems, compatibility testing, and clinical correlations related to transfusion reactions and to the prediction, diagnosis and prevention of hemolytic disease of the newborn. Prerequisite: MT 405Q or equivalent or consent of instructor. H 14 470 0 1223

471. Immunohematology I Laboratory. (1). 3L. A laboratory course in techniques relevant to performance of a blood banking technologist in a donor or transfusion service. Methodology covered includes blood typing, antibody screening, single antigen identification, compatibility testing, prenatal testing, neonatal testing, Rh immune globulin and quality assurance of immunohematology laboratory procedures. Prerequisites: MT 405Q or equivalent and MT 470 or concurrent enrollment or consent of instructor. H 14 471 1 1223

476. Immunohematology II. (2). A problem-solving, theoretical course in blood banking, covering HLA, disputed paternity, forensic testing, antibody identification techniques, reliability and serological incompatibilities encountered in blood types, compatibility testing, hematology, hemolytic disease of the newborn, Rh immune globulin and hemolytic anemia workups. Prerequisite: MT 470 or consent of instructor. H 14 476 0 1223

477. Immunohematology II Laboratory. (1). 3L. A laboratory course in techniques relevant to resolution of medical-legal cases, antibody identification and problems encountered in blood typing, compatibility testing, hematology, hemolytic disease of the newborn, Rh immune globulin and hemolytic anemia workups. Prerequisites: MT 470 or consent of instructor. H 14 477 1 1223

479. Applied Immunohematology. (3). Application of the theory and technical skill of immunohematology in a clinical laboratory with experiences in prenatal testing, antibody identification, direct antiglobulin evaluation, provision of safe blood or blood components for transfusion and resolution of discrepancies encountered in performing any of the procedures. Offered O/NCR only. Prerequisites: MT 467, 477 and departmental consent. H 14 479 2 1223

480. Clinical Immunology I. (1). An introduction to serological diagnosis in the clinical laboratory, including rationale of testing, methodology and comparison of different methods, interpretation of test results and clinical correlations. Prerequisite: MT 405Q or equivalent or consent of instructor. H 14 480 0 1223

481. Co-operative Education. (1-8). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Prerequisites: the basic requirements for admission include successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. Repeatable for credit. H 14 481 2 1223

483. Clinical Immunology II Laboratory. (1). A laboratory course in techniques relevant to serological diagnosis of the following conditions: syphilis, acute bacterial infections, streptococcal disease, measles, mycoplasma infections, infectious mononucleosis, rheumatoid arthritis and pregnancy. Prerequisite: MT 480 or concurrent enrollment or consent of instructor. H 14 483 1 1223

489. Applied Clinical Techniques. (2). Application of theory and techniques of clinical immunology, serology, body fluids and specimen collection in the clinical laboratory. Offered O/NCR only. Prerequisites: MT 406, 492, 4813 and departmental consent. H 14 489 2 1223

490. Clinical Microbiology I. (3). Basic theory covering (a) procedures for specimen processing in the clinical laboratory, (b) normal flora, (c) morphological, cultural and serological diagnosis of pathogenic bacteria, (d) diagnosis of common pathogenic organisms. Use and interpretation of common antimicrobial susceptibility testing procedures. Prerequisites: Biol. 330 and concurrent enrollment in MT 491. H 14 490 0 1223

491. Clinical Microbiology I Laboratory. (1). 4L. Basic procedures for the setup and examination of clinical specimens, isolation and identification for the more common pathogenic organisms. Use of biochemical tests to distinguish different genera of bacteria and (d) basic theory in antimicrobial susceptibility testing techniques. Prerequisites: Biol. 330 and concurrent enrollment in MT 491. H 14 490 0 1223

494. Special Topics in Clinical Microbiology. (2). Prerequisites: Biol. 330, previous or concurrent enrollment in MT 490 and departmental consent. H 14 491 1 1223

496. Clinical Microbiology II. (3). Advanced theory, procedures and rationale for the isolation and identification of the nonfermenters, the anaerobic and unusual aerobic organisms. Discussion of diseases processes and identification of the acid-fast bacteria. Introduction to advanced antimicrobial susceptibility testing techniques. Prerequisites: MT 490 and concurrent enrollment. H 14 496 0 1223

497. Clinical Microbiology II Laboratory. (1). 4L. Advanced laboratory techniques in the isolation and identification of nonfermenters, the anaerobic and unusual aerobic organisms. Techniques for cultures and identification of acid-fast bacteria. Advanced antimicrobial susceptibility testing techniques. Prerequisites: MT 490 and 491 and concurrent enrollment in MT 496. H 14 497 1 1223

498. Applied Clinical Microbiology. (3). Application of theoretical and practical aspects of clinical microbiology in a commercial laboratory and operating hospital laboratory. Prerequisites: MT 496 and MT 497. H 14 498 2 1223

550. Clinical Endocrinology. (3). This course will describe endocrine hormone functions and the practical application of modern clinical laboratory methods for the diagnosis of functional hormonal disorders. Open to nonmajors in medical technology. Prerequisites: Biol. 226 or equivalent and Chem. 103Q or 111Q or equivalent or instructor's consent. An understanding of biochemistry is recommended. H 14 550 0 1223

Courses for Graduate/Undergraduate Credit

752. Method Evaluation and Selection. (3). This course will present an objective, practical approach to the evaluation of laboratory methodologies. This approach incorporates the study of related technologies, costs, labor utilization, quality assurance of laboratory procedures, and health care practitioners' interactions with providers. H 14 752 0 1223

756. Advanced Clinical Hemostasis. (3). Advanced studies in the mechanisms of hemostasis, pathological changes that can occur in the hemostatic mechanism and the laboratory evaluation of those changes. Prerequisites: MT 482 or instructor's consent. H 14 756 0 1223

770. Therapeutic Dimensions of Clinical Laboratory Science. (3). A study of the expanding role of the clinical laboratory in the monitoring of therapy and the patients' response to therapy. Areas to be addressed include hematology, general and special laboratory support, health administration and management, antimicrobic susceptibility testing, teaching and supervision. Prerequisites: MT 479 and HS 701 or instructor's consent. H 14 770 0 1223

780. Issues in Immunohematology. (3). 3R. An in-depth analysis of current issues in a modern transfusion service with emphasis on responding to changes in patient care through application in technology, research and supervision. Prerequisites: MT 479 and HS 701 or instructor's consent. H 14 780 0 1223

790. Epidemiology and Infection Control. (3). Prerequisites: MT 482 or equivalent or instructor's consent. A study of the expanding role of hospital personnel in the performance of hospital epidemiology and infection control. Areas to be addressed include basic epidemiological principles, basic considerations of hospital infections including investigations and surveillance, microbial ecology, surveillance within the hospital environment, the role of the hospital laboratory and possible endemic and epidemic infections. Prerequisites: course in medical microbiology or instructor's consent. H 14 790 0 1223

800. Seminar in Laboratory Sciences. (1). Recent issues and advances in the field of clinical laboratory science, including the areas of microbiology, clinical chemistry, immunology, and hematology, and the role of the clinical laboratory in the diagnosis and treatment of disease. Open to nonmajors in medical technology. Prerequisites: Biol. 226 or equivalent and Chem. 103Q or 111Q or equivalent or instructor's consent. An understanding of biochemistry is recommended. H 14 800 0 1223
Nursing

Department of Nursing

The Department of Nursing offers the Bachelor of Science in Nursing and the Master of Nursing. For more information about the master's degree, refer to The Wichita State University Graduate Bulletin.

Bachelor of Science in Nursing

The Bachelor of Science in Nursing program is designed to prepare students for the practice of professional nursing. The graduate is prepared for beginning positions in nursing in any health care delivery system and for further study at the master and doctoral levels and for advancement to nursing positions of increasing responsibility and leadership. Nursing students have the opportunity for increased clinical experiences through a cooperative agreement between The Wichita State University and HCA Wesley Medical Center.

Students are admitted to the Department of Nursing at the junior year after completing 60-64 hours of coursework. Persons interested in the Bachelor of Science in Nursing may direct inquiries to Chairperson, Department of Nursing, The Wichita State University, Wichita, Kansas 67208-1595.

Preprofessional Curriculum

Students applying for admission to the Department of Nursing must have completed the following courses. Students should consider taking 16 hours per semester or attending Summer Session.

Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 109, 110, 111, 112 or 211</td>
<td>Basic Skills (12 hours)</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Eng. 102, College English II</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Phil. 100G, The Meaning of Philosophy</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Six hours in two other departments (excluding performance and studio arts)</td>
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</table>

Division A—Humanities and Fine Arts (nine hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soc. 111Q, Introduction to Sociology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>One elective in any department in Division B</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Division B—Social and Behavioral Sciences (12 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psych. 111Q, General Psychology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Psych. 334Q, Developmental Psychology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Biol. 120Q, Introduction to Microbiology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Biol. 225, Human Anatomy</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Biol. 226, Elementary Human Physiology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Chem. 133Q, General Chemistry</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HS 331Q, Principles of Dietetics and Nutrition</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HS 301, Clinical Pharmacology</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Three-hour course in statistics with Department of Nursing approval</td>
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<td>3</td>
</tr>
</tbody>
</table>

Electives (3-10 hours)

Admission To Department of Nursing

Students who have satisfactorily completed two semesters of lower-division courses may request an application form from the Department of Nursing. Application forms for fall semester admission are requested by January 1; for spring semester admission, by August 1. To qualify as a candidate for admission to the Department of Nursing, students must:

1. Be enrolled in, or admitted to, The Wichita State University.
2. Have completed, or have plans to complete, the lower-division requirements.
3. Have an overall grade point average of at least 2.500 in all courses completed and no grade lower than a C in any of the specified required courses.
4. Submit an application including expected semester of enrollment.

Registered nurse students, in addition to the above requirements, must:

1. Submit a photocopy of current license to practice as a registered nurse in Kansas.
2. Submit official transcripts of college courses and records from the school of nursing.

Professional Curriculum

The following courses in the Department of Nursing are required for the Bachelor of Science in Nursing. A total of 124 hours of University credit is required for graduation.

Course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurs. 327, Nursing as a Practice Discipline</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 330, Technologies I</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 332Q, Health Promotion and Self-Care</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 334, Dimensions of Professional Nursing</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 336, Design of Nursing Systems</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 340, Technologies II</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 347, Nursing Systems: Organic Disorders</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 351, Nursing Systems: Behavioral Disorders</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 352, Nursing Practice I</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 354, Nursing Practice II</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 400, Introduction to Pathology</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Nurs. 480, Technologies III</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Nurs. 464, Nursing Systems: Aging Families</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 465, Nursing Systems: Young Families</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 466, Nursing Practice III</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 468, Scholarship Dimensions of Nursing</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 472, Nursing Practice IV</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Nurs. 473, Senior Seminar</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 478, Nursing Systems: Large Groups</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Upper-division elective courses 8-9

Other Requirements

Uniforms are required for all clinical laboratory experiences. Students are required to provide evidence of personal health insurance and evidence of a completed physical examination prior to clinical laboratory experiences each academic year. Additional costs for instructional materials,
testing, lab experiences, etc., may be required throughout the program. CPR certification is required. Information related to these requirements is available from the Department of Nursing.

Upper-Division Courses

327. Nursing as a Practice Discipline. (2) An introductory course in the study of nursing within the self-care framework and its use in nursing practice, education, theory and research. The student examines perceptions of the nurse, nursing as a practice discipline and as a student of nursing. Prerequisite: admission to the department of nursing or departmental consent. H 11 327 0 1203

330. Technologies I. (2). 6L A series of learning experiences in which the student learns sets of manipulative, discriminative, communicative and interpersonal skills for use in the design and control of nursing systems for individuals and groups. Emphasis is placed on the scientific and humanistic basis for the various technologies. Prerequisite: admission to the department of nursing. H 11 330 1 1203

332. Health Promotion and Self-Care. (2). Self-care (health) practices and health state of individuals within ranges of wellness are studied. Emphasis is on the determinants which affect the universal self-care requisites are met. Open to non-nursing majors. Prerequisites: Eng. 101 and 102. H 11 332Q 0 1203

334. Dimensions of Professional Nursing. (3). A course designed to introduce registered nurse students to the study of nursing as a practice discipline and professional nursing roles. Emphasis is placed on the self-care concept of nursing and its use in professional practice, education and scholarship. Prerequisite: admission to department or departmental consent. H 11 334 0 1203

336. Design of Nursing Systems. (5). 3R; 6L. The study of knowledge, attitudes and skills for the design, implementation, and evaluation of nursing systems for individuals. Methods, processes, and types of nursing systems are studied. Prerequisite: admission to department. Corequisites: enrollment in Nurs. 327 and 332Q. H 11 336 1 1203

341. Technologies II. (3) 6L. A continuation of Nurs. 330 which builds on content presented in the first course. Prerequisite: Nurs. 330. H 11 341 1 1203

347. Nursing Systems: Organic Disorders. (4). This course is designed to study the design and control of nursing systems related to organic disorders, focusing on educative-supportive and wholly compensatory nursing systems appropriate to adults demonstrating major health problems in contemporary society. Prerequisites: Nurs. 327, 330, 332, 336, 400 or Phase I courses. Corequisites: Nurs. 340 and 352. H 11 347 0 1203

351. Nursing Systems: Behavioral Disorders. (2). Study of design and control of nursing systems for individuals with behavior disorders focusing on educative-supportive and partly and wholly compensatory nursing systems. Prerequisites: Phase I nursing courses. Corequisite: Nurs. 354. H 11 351 0 1203

352. Nursing Practice I. (3). 9L. This clinical course provides the student opportunity to design and control nursing systems for adults with organic disorders focusing on educative-supportive and partly and wholly compensatory nursing systems appropriate for adult client(s)/patient(s) demonstrating major health problems in contemporary society. Prerequisites: Phase I courses. Corequisites: Nurs. 340 and 347. H 11 352 1 1203

352H. Nursing Practice I, Honors. (3) 9L. A clinical course providing the student the opportunity to design and control nursing systems for adults with organic disorders focusing on educative-supportive and partly and wholly compensatory nursing systems appropriate for adult client(s)/patient(s) demonstrating major health problems in contemporary society. Prerequisites: Phase I courses. Corequisites: Nurs. 340 and 347. H 11 352 1 1203

352H. Nursing Practice I, Honors. (3) 9L. A clinical course providing the student the opportunity to design and control nursing systems for adults with organic disorders focusing on educative-supportive and partly and wholly compensatory nursing systems appropriate for adult client(s)/patient(s) demonstrating major health problems in contemporary society. Prerequisites: Phase I courses. Corequisites: Nurs. 340 and 347. H 11 352 1 1203

354. Nursing Practice II. (2). 6L. A clinical course designed to study and control nursing systems for individuals with organic disorders, focusing on educative-supportive and wholly compensatory nursing systems appropriate for adult client(s)/patient(s) demonstrating major health problems in contemporary society. Prerequisites: Phase I courses. Corequisites: Nurs. 351. H 11 354 1 1203

400. Introduction to Pathophysiology. (3). Cross-listed as HS 400. A course for professional upper-division students enrolled in the College of Health Professions. The course focuses on the essential mechanisms of disordered functions which produce common diseases. Some common diseases are discussed but the basis of the basic processes covered, not as an exhaustive inventory. The purpose of the course is to present the health professional with accessible, useable and practical information he/she can broadly and quickly apply in his/her clinical or laboratory experience or as a basic pathophysiology course before taking the more specific, professionally related pathophysiology course. Prerequisite: admission to professional upper-division level in College of Health Professions or instructor's consent. H 18 400 0 1203

425-427. Special Projects in Nursing. (1-4). Emphasis on study of selected topics, didactic and/or clinical, designed to enhance the student's knowledge base and competencies in nursing practice. Repeatable once for departmental consent. H 11 425 2 1203; H 11 427 2 1203

432. Educative-Supportive Nursing Systems. (3). 2R; 3L. Elective. This lecture and clinical course focuses on the planning and implementation of patient education. The nurse's role in patient education includes assessing the patients in decision-making, health behavior control and acquiring knowledge and skills. The major emphasis of the course is the development of the nurse's ability to use teaching methods in clinical nursing situations. This elective course builds upon the previous knowledge and clinical experiences of identified prerequisite courses. The purpose of this course is to enhance knowledge and abilities of the student to educate individuals and small and large groups in a clinical setting. Prerequisites: Nurs. 340, 347 and 352 or instructor's consent. H 11 432 1 1203

434. Perioperative Clinical Management for the Nurse Agent. (3). 6L. This is an elective lecture/clinical course. It examines the nursing needs of individuals in small groups that have various health problems requiring surgery. The focus is the expansion of the nurse student's power to perform deliberate actions for the benefit and well-being of others in all phases of the surgical process (before, during and after). The major emphasis of the course is the nurse student's acquisition of clinical management skills in all phases of the surgical process. Prerequisites: Nurs. 340, 347, 352 or completion of 340, 347 courses. H 11 434 1 1203


464. Nursing Systems: Aging Families. (3). 2R; 3L. This course is designed to provide information and experience in the design of nursing systems for clients/patients experiencing specific developmental stages in conjunction with normal and pathological changes associated with aging. Prerequisites: Nurs. 340, 347, 351, 352 and 354 or permission of the instructor. Open to non-nursing majors who have a license to practice nursing. H 11 464 1 1203

465. Nursing Systems: Young Families. (3). The study of the design and control of nursing systems for families in ranges of health states. Educative-supportive and partly and wholly compensatory systems appropriate for young families are the focus of this course. Prerequisites: Nurs. 340, 347, 351, 352 and 354. Corequisites: Nurs. 460 and 465. H 11 465 1 1203

466. Nursing Practice III. (3). 9L. A clinical course for evaluation and use of nursing and nursing-related research in the role of practitioner of nursing. The major emphasis is the expectation that the student will be prepared for the clinical nursing role related to young families. Prerequisites: Nurs. 340, 347, 351, 352 and 354. Corequisites: Nurs. 460 and 465. H 11 466 1 1203

466H. Nursing Practice III, Honors. (3). 9L. A clinical course for evaluation and use of nursing, nursing-related theory and research in nursing. The major emphasis is the expectation that the student will be prepared for the clinical nursing role related to young families. Prerequisites: Nurs. 340, 347, 351, 352 and 354; GPA of 3.250; and instructor's approval. H 11 466H 1 1203

468. Scholarship Dimensions of Nursing. (2). The study of research methodology in nursing and its use in developing nursing knowledge. Students identify research problems and develop a research proposal. The uses of research findings in practice are discussed. Relations among the roles of practitioner of nursing, research scholar and the nurse are examined. Prerequisites: Nurs. 340, 347, 351, 352 and 354. H 11 468 0 1203

472. Nursing Practice IV. (6). 18L. This practicum emphasizes the complexity of the design and control of nursing systems for individuals and groups. The student practices clinical nursing in various settings, developing skills to synthesize nursing knowledge with emphasis on the development of organizational and managerial skills. H 11 472 1 1203

473. Senior Seminar. (3). Course focuses on the leadership and management role of the nurse and on coordination of nursing care for groups of clients. Ethical-legal, economic, political and other professional issues related to nursing practice are examined. Prerequisites: Phase II courses. Corequisites:
473H. Senior Seminar Honors. (3). Course focuses on the leadership and management role of the nurse and the coordination of nursing care for groups of clients. Ethical, legal, economic, political and other professional issues related to nursing practice are examined. Students complete an in-depth study of a concept related to leadership and/or management theories. Prerequisites: Phase II courses, concurrent enrollment in Nurs 472, 3.25 GPA and departmental consent. H 11 473H 9 1203

476. Health Assessment. (3). Designed to help the registered nurse develop skills in health assessment. The complete health history and head-to-toe physical assessment, as well as history and physical related to a chief complaint or specific problem, are addressed. The influence of various stages of growth and development on assessment techniques and findings are considered. Emphasis is on the assessment of health status through differentiating between normal, variation of normal, and abnormal findings. Course includes both theory and practice with participants practicing assessment skills on one another, under supervision. Prerequisites: registered nurses only. H 11 476 0 1203

478. Nursing Systems: Large Groups. (5). 2R; 9L. The study of nursing to large groups of people with multiple complex health problems. Community health problems are assessed and design and control of nursing systems for large groups of people are practiced. Prerequisites: Phases I and II courses. H 11 478 1 1203

478H. Nursing Systems for Large Groups. (3). 9L. A clinical honors course for the study of nursing for large groups with potential multiplicity, complex health problems. The focus is health promotion throughout the life span. The major emphasis of the course is the expanded development of nursing agency in clinical nursing situations. Prerequisites: Phase I and II courses. Corequisites: Nurs 478. H 11 478H 1 1203

481. Cooperative Education Field Study. (1-6). A field placement which integrates course work with a planned and supervised professional experience designed to complement the academic and professional aspects of the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment, or alternate, enrolling full time one semester, a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any course work. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 11 481 2 1203

Courses for Graduate/Undergraduate Credit

505. Directed Study In Nursing. (1-4). Elective. Individual study of the various aspects and/or problems of professional nursing. Repeatable. Prerequisite: departmental consent. H 11 505 3 1203


543. Women and Health Care. (3). This course examines the historical development of the women's health movement, focuses on current issues relevant to women and health care and explores the roles of women in the health care system and as consumers of health care. Women are examined and ways to promote positive health practices are studied. Open to non-nursing majors. H 11 543 0 1203

570. Interpretations of Sexuality for Health Professions. (3). Cross-listed as HS 570. Elective. An introduction to the study of sexuality and the role it plays with sexual problems and disorders. Emphasis on relating varying interpretations of biological, psychological, and cultural aspects of sexuality to the health professions. Open to nonnursing majors. H 11 570 0 1203

700. Assessment of Pediatric and Adolescent Clients. (2) 2R; 3L. A theoretical and clinical laboratory experience in which students focus on the assessment of pediatric and adolescent clients. Preparation for the role of RN and graduate students. H 11 700 1 1203

703. Foundations of Nursing. (3). Focuses on the nature of theory and the process of theory development. The historical development of nursing theory is traced and projections for the future are explored. Selected conceptual models of nursing are analyzed in terms of implications for nursing practice, nursing research and nursing education. Prerequisites: admission to Graduate School. H 11 703 0 1203

704. Health Maintenance of the School Age Child. (3). 2R; 3L. This course examines and applies major theories, clinical concepts and research studies related to school health nursing of RN and graduate students. H 11 704 0 1203

705. Nursing Research. (3). Building on an initial research experience, this course is designed to assist the student in understanding premises which govern research design, implementation and evaluation. Consideration is given to current issues in nursing research, the researcher, the populations studied and the consumer of research. Prerequisites: admission to Graduate School. H 11 705 0 1201

706. Organization and Management of the School-Health Program. (3). 2R; 3L. This course examines and applies concepts of organization and management to the school health delivery system. Political, economic and social factors which influence the school-health delivery system are explored. Open to RN and graduate students. H 11 706 0 1203

708. School Nurse Practicum. (2). 6L. An intensive clinical experience in which students design, implement and evaluate nursing systems to promote the health of individuals in the school-health delivery system and the broader community system. Open to RN and graduate students. H 11 708 1 1203

711. Issues in Nursing. (3). Various issues in professional nursing are analyzed. Course focuses on issues ranging from concerned within the local practice setting to national policy formation and health care systems are examined. Prerequisite: admission to Graduate School. H 11 711 0 1203

733. Diabetes Mellitus Nursing Practicum. (3). Exploration of clinical theories and appropriate nursing systems for clients with diabetes mellitus are identified and studied. Emphasis is on attaining and maintaining optimal levels of functioning and the psychological adjustment of the client and family to a potentially devastating disease. H 11 733 0 1203

734. Diabetes Mellitus Nursing Practicum. (3). An intensive clinical experience in which the student is expected to study, design and implement nursing systems for individuals or groups in the area of diabetes mellitus nursing management. A weekly one hour seminar will accompany the practicum. H 11 734 1 1203

750. Workshops in Nursing. (1-4). An opportunity for intensive study of special topics related to nursing practice, education or research. Open to nonmajors. H 11 750 2 1201

791. Special Studies in Nursing. (1-6). A course allowing opportunity for students to engage in extensive study of particular content and skills directly or indirectly related to nursing practice. Repeatable. Prerequisites: admission to Graduate School and departmental consent. H 11 791 0 1203

796. Nursing Practicum in Special Settings. (1-6). An opportunity for directed practice in various settings, including clinical specialties, nursing administration, nursing education and consultation. The student plans an intensive study of special topics and skills directly or indirectly related to nursing practice. Prerequisites: admission to Graduate School and departmental consent. H 11 796 2 1203

799. Directed Readings in Nursing. (1-2). An opportunity for the student to engage in extensive study of special topics and skills related to the profession and practice of nursing. Prerequisites: admission to Graduate School and departmental consent. H 11 799 3 1203

Courses for Graduate Students Only

807. Clinical Nurse Specialist: Role. (3). The first of a two-course series designed for the student preparing for the clinical specialist role. Discusses will be the historical development of the clinical specialist role; the ethical, legal, political and economic issues affecting such a role; and the current trends and future directions for the role. Components of the clinical nurse specialist role will be identified and approaches for implementation will be examined. Prerequisite: completion of at least 6 hours of a clinical concentration. H 11 807 0 1203

808. Clinical Nurse Specialist: Practicum. (3). The second of a two-course series designed for the student preparing for the clinical specialist role. It is an intensive practicum experience in which the student works with a clinical nurse specialist preceptor in a selected clinical setting. Emphasis is on role development and analysis of strategies to improve nursing practice. Prerequisites:
825. Independent Study. (1-6). Independent study provides opportunity for the student to develop, in collaboration with a faculty member, objectives and protocol for independent work related to the practice of nursing. Prerequisites: admission to Graduate School and departmental consent. H 11 825 3 1201

827. Resource Management in Nursing. (3). Course focuses on the assessment of human and material resources and informational systems needed to manage nursing care effectively. Students develop and evaluate an intake, management, patient classification systems, costing out of nursing services, strategic planning and marketing are emphasized. Prerequisites: Nurs. 703, 705 and 711. H 11 827 2 1203

829. Foundations of Maternal-Child Nursing. (3). This course provides the foundation for all courses in the maternal-child clinical concentration. Seminars enable students to investigate major theories, clinical concepts and approaches to the delivery of maternal-child nursing. Prerequisites: Nurs. 703, 705 and 711. H 11 829 0 1203

832. Maternal-Child Nursing Practicum I. (3). An intensive clinical experience in which the student focuses on the process of systematic assessment of individuals and groups within a family system. A seminar accompanies the practicum. Prerequisite or corequisite: Nurs. 829. H 11 832 1 1203

833. Adult Nursing I. (3). This course will examine clinical concepts and issues related to the maintenance of optimal health states of adults. Emphasis is placed on assessment, measurement and nursing interventions related to these concepts. Prerequisites: Nurs. 703, 705 and 711. H 11 833 0 1203

834. Adult Nursing Practicum (3 or 6). An intensive clinical experience in which the student is expected to design, implement and evaluate nursing care for adults. Specialized areas of study are selected and may include health maintenance or illness care of acutely or chronically ill adults. Practicum sites may include hospitals, extended care facilities, rehabilitation centers, community health agencies. A seminar is included as part of the practicum. Prerequisites: Nurs. 703, 705, 711 or instructor's consent; Nurs. 833 or 839 may be concurrent. H 11 834 2 1203

835. Perspectives in Maternal-Child Nursing. (3). This course critically examines health care delivery systems for maternal and child health. The effects of political, economic and social factors on maternal and child health are analyzed. Prerequisites: Nurs. 703, 705, 711 and 829. H 11 835 0 1203

836. Maternal-Child Nursing Practicum II. (3). An intensive clinical experience in which the student analyzes, designs, implements and evaluates nursing systems for individuals and groups within a family system. Prerequisites: Nurs. 703, 705, 711 or instructor's consent; Nurs. 835 may be concurrent. H 11 836 2 1203

837. Perspectives in Gerontological Nursing. (3). Emphasis is on the synthesis of concepts and theories into a functional theoretical framework of gerontological nursing. This course addresses the health problems of older adults and to plan appropriate preventive, rehabilitative or restorative approaches to these problems. Attention upon social, economic, political, ethical and legal aspects as they impinge upon the well-being of older adults. Prerequisites: Nurs. 833 and 834 or instructor's consent. H 11 837 0 1203

839. Adult Nursing II. (3). This course examines clinical concepts and issues related to major disruptions in the health status of adults. Emphasis is placed on assessment, measurement and interventions related to these concepts. Prerequisites: Nurs. 703, 705 and 711. H 11 839 0 1203

841. Foundation of Community Health Nursing. (3). As the health care system broadens its base to community settings, a much greater appreciation of historical development, trends and issues related to community health nursing will be investigated. Conceptual models and theories are analyzed as related to nursing practice and research in the community. Prerequisite: instructor's consent. H 11 841 0 1203

843. Perspectives in Psychiatric/Mental Health Nursing. (3). A critical examination of the delivery of mental health nursing. Emphasis is given to practitioner roles and therapeutic nursing modalities. The effect of historical, social, political, economic and ethical-legal factors are analyzed. Prerequisite: Nurs. 819. H 11 843 0 1203


845. Seminar in Nursing Administration. (3). An in-depth study and analysis of the roles of nurse managers in various health care settings. Special problems, current topics and issues in nursing administration will be discussed. Prerequisites: Nurs. 811 or 827 and at least 3 hours of Nurs. 812. H 11 845 9 1203

School Nurse

The following curriculum plan is recommended for registered nurses who desire school nurse certification but who do not wish to pursue a degree.

In the College of Education, students must take three courses: ISFE 428, Social and Cultural Foundations of Education (two hours), or ISFE 701, Foundations of Education (three hours); ISSP 601, Introduction to Exceptional Child (three hours); and IS 490 or 890, Independent Study (one hour).

In addition, students must take courses in the College of Health Professions: Nurs. 700, Assessment of Pediatric and Adolescent Clients (three hours), or an equivalent course determined by the Department of Nursing; Nurs. 704, Health Maintenance of the School Age Child (three hours); Nurs. 706, Organization and Management of the School-Health Program (three hours); and Nurs. 708, School Nurse Practicum (two hours), optional.

The total program requires 17-18 credit hours.
Physical Therapy

Department of Physical Therapy

The physical therapy professional program prepares students to become health care professionals who work with patients disabled by illness or accident or born with a handicap. Physical therapists also work to prevent functional disability and to maintain health. They evaluate neuromuscular, musculoskeletal, sensorimotor and related functions to determine the degree of muscle strength, motor development, motion, respiratory ventilation and/or peripheral circulatory efficiency.

Physical therapists plan and implement treatment programs based on test findings after a referral from a licensed physician or dentist. Treatments by physical therapists include exercises for increasing strength, endurance, coordination and range of motion; stimuli to facilitate motor activity and learning; instruction in activities of daily living and the use of assistive devices; and the application of physical agents, such as heat, cold, sound and water, to relieve pain or alter physiological status. In addition, they try to motivate patients, their families and others involved in the prevention and treatment of functional disabilities.

Bachelor of Science in Physical Therapy

The baccalaureate program includes two years of prephysical therapy study in the natural and social sciences, communication and humanities followed by two years (four semesters plus one summer) in advanced sciences, professional study and clinical education. The Bachelor of Science in physical therapy is awarded to those who satisfactorily complete the program including those who enter the professional program with a degree in another field. This program is fully accredited and graduates are eligible to take the examinations required for state licensure.

The Department of Physical Therapy has been approved by the Kansas Board of Regents to offer a Master of Physical Therapy degree beginning fall 1990. Students who begin as freshmen in fall 1988, and all others who plan to enter the professional program in fall 1990 and after, will follow the requirements for the Master of Physical Therapy curriculum. More information about that program is available from the Department of Physical Therapy.

Preprofessional Curriculum

Students who intend to apply for admission into the physical therapy professional curriculum must complete the following courses. They must also complete the requirements for a baccalaureate degree, using the first year of the professional program for the senior year of the baccalaureate degree, or complete the following courses and a baccalaureate degree prior to entering the first year of the professional program.

Course | Hrs.
--- | ---
Communications (nine hours) | 
Eng. 101, College English I | 3
Eng. 102, College English II | 3
Speech 111, Basic Public Speaking, or Speech 112, Interpersonal Communication | 3
Division A—Humanities and Fine Arts (nine hours) * | 
Nine hours in at least three different departments
Division B—Social and Behavioral Sciences (nine hours) | 
Psych. 111Q, General Psychology | 3
Soc. 111Q, Introductory Sociology | 3
Psych. 414, Child Psychology; Psych. 404, Psychology of Aging; Psych. 514, Psychology of Illness; or Soc. 537, Social Consequences of Disability | 3
Division C—Natural Sciences and Mathematics (36-37 hours) | 
Biol. 203Q, Introductory Biology I | 5
Biol. 225, Human Anatomy; Biol 524, Vertebrate Zoology; or Biol. 527, Comparative Anatomy | 3-5
Biol. 226, Elementary Human Physiology; or Biol. 534, Mammalian Physiology | 3
Chem. 111Q, General Chemistry I | 5
Chem. 112Q, General and Inorganic Chemistry | 5
Math. 111, College Algebra, and 123, College Trigonometry | 
Math. 112, Precalculus Mathematics | 5-6
Phys. 213Q, General College Physics I | 5
Phys. 214Q, General College Physics II | 5

* Students may wish to select General Studies courses in the humanities and fine arts in order to satisfy the University's graduation requirement of nine hours of General Studies courses. See the Academic Information-General Studies section of the Catalog.

Admission to Professional Curriculum

In order to enter the physical therapy professional curriculum, students must:
1. Be admitted to The Wichita State University
2. Have a minimum cumulative grade point average of 3.000 in all college courses, including a minimum 3.000 grade point average in required courses and a 3.000 grade point average in all required math and science courses
3. Submit to the Physical Therapy Admissions Committee all application forms, test results, information and fees requested by the committee by the deadline set each year by the Physical Therapy Admissions Committee
4. Be able to complete successfully (grade of C or better) all physical therapy prerequisites prior to the beginning of the first semester of the professional program (no required course may be taken during the summer prior to entering the program)
5. Be accepted by the Physical Therapy Admissions Committee.

A $100 nonrefundable tuition deposit is required of all students accepted by the committee.

Students may petition the committee for an exception to one of these requirements provided they are able to show that valid circumstances prevent compliance with that requirement.

Professional Curriculum

The following courses are required of students accepted into the professional phase of the physical therapy program.

Course | Hrs.
--- | ---
Division D—Professional Studies | 
PT 300, Basic Patient Care Skills | 2
PT 302, Clinical Education I | 2
PT 312, Clinical Education II | 2
PT 320, Applied Biomechanics | 3
PT 350, Physical Therapy Evaluation Procedures | 2
PT 355, Physical Agents | 4
PT 409, Introduction to Research for the Health Professions | 1
PT 411, Special Projects | 1-1
PT 422, Clinical Education III | 2
PT 432, Clinical Education IV | 4
PT 440, Prosthetics and Orthotics | 5
PT 442, Clinical Education V | 6
PT 445, Physical Therapy Procedures | 4
PT 448, Therapeutic Exercise I | 3
PT 450, Therapeutic Exercise II | 5
PT 452, Clinical Education Vi | 6
PT 480, The Physical Therapist in Practice | 3
PT 485, Topics in Physical Therapy | 1
PT 489, Basic Joint Mobilization | 2
PT 505, Pathophysiology I | 4
PT 626, Pathophysiology II | 4
Biol. 470, Applied Human Physiology | 4
HS 301, Clinical Pharmacology | 3
HS 310, Gross Anatomy | 6
HS 511, Neuroanatomy and Neurophysiology | 3

Special Requirements

Students are required to purchase uniforms and other apparel needed during clinical learning experiences. Students are also required to purchase profes-
sional liability insurance (in the amount of not less than $300,000/$900,000) and health insurance coverage. This must be done on a yearly basis. Prior to entering the clinical learning experiences in the first year of the professional program, each student must be certified in cardiopulmonary resuscitation (CPR). This may be accomplished through the Red Cross, American Heart Association or the Department of Physical Therapy. Recertification will be needed prior to entry into the senior year clinical education courses. In addition, students are required to provide their own transportation to and from the health care facilities used for clinical experiences. During internship assignments outside Wichita, students may be required to pay all living and travel expenses.

Information related to special requirements is available in the office of the Department of Physical Therapy.

Lower-Division Course

281. Cooperative Education Field Study. (1-8) A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 281 may follow one of two scheduling patterns: Parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; or alternating, working full time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any course. Prerequisite: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 17 281 2 1212

Upper-Division Courses

300. Basic Patient Care Skills. (2). 1R; 2L Theory and practice of fundamentals of patient care in physical therapy including medical terminology, communications, physical management of the patient and ambulation. Prerequisite: departmental consent. H 17 300 1 1212

302. Clinical Education I. (1). 4P. Introduction to basic patient care in various physical therapy settings. Offered Cr/NCr only. Prerequisite: departmental consent. H 17 302 2 1212

312. Clinical Education II. (2). 8P. Supervised application of the skills acquired in class to patients in various physical therapy settings. Offered Cr/NCr only. Prerequisite: departmental consent. H 17 312 2 1212

320. Applied Biomechanics. (3). 3R; 2L Analysis of the integration of the systems of the body that produce normal motion and the effects of dysfunction on normal motion. Prerequisite: departmental consent. H 17 320 1 1212

350. Physical Therapy Evaluation Procedures. (2). 1R; 3L Theory and practice of basic physical therapy evaluation procedures; includes sensory and muscle testing, goniometry and posture evaluation. Prerequisite: departmental consent. H 17 350 1 1212

355. Physical Agents. (4). 2R; 4L. The focus of this course is on the study of physical agents—thermal, mechanical and electrical. Skills in performance of therapeutic applications of the physical agents will be developed. Prerequisite: departmental consent. H 17 355 1 1212

409. Introduction to Research for the Health Professions. (1). An introduction to the scope, format and use of research in the health professions. Development of ability to be a critical consumer of professional literature and the initiation of research projects. Prerequisite: departmental consent. H 17 409 0 1212

411. Special Projects. (1-2). Arr. An introduction to the performance of investigative study through the completion of a project in, or related to, the field of physical therapy. Students must complete two credit hours as a requirement for the major. Prerequisite: PT 409. H 17 411 3 1212

422. Clinical Education III. (2). 8P. Continuation of PT 312. Offered Cr/NCr only. Prerequisite: departmental consent. H 17 422 2 1212

432. Clinical Education IV. (4). 16P. Continuation of PT 422. Offered Cr/NCr only. Prerequisite: departmental consent. H 17 432 2 1212

440. Prosthetics and Orthotics. (2). 1R; 2L. Study of prosthetics and orthotics including basic principles of design, components, alignment and use. Prerequisite: departmental consent. H 17 440 1 1212

442. Clinical Education V. (6). 40P. Supervised full-time assignments to physical therapy settings where the student is responsible for initial patient evaluations, program planning, implementation and assessment of patient progress. Offered Cr/NCr only. Prerequisite: departmental consent. H 17 442 2 1212

445. Physical Therapy Procedures. (4). 2R; 4L. The study and identification of procedures used by physical therapists in dealing with patients with such needs as cardiac rehabilitation, pulmonary rehabilitation, child birth education, sports medicine and burn care. Prerequisite: departmental consent. H 17 445 1 1212

448. Therapeutic Exercise I. (3). 1R; 4L. Basic exercise procedures with and without equipment to increase range of motion, strength and/or coordination; theory and skill development. Prerequisite: departmental consent. H 17 448 1 1212

450. Therapeutic Exercise II. (5). 2R; 6L. The major approaches to therapeutic exercise are presented and skill in performance developed. The use of therapeutic exercise equipment is also studied. Activities of daily living are analyzed in order to see the relationship between therapeutic exercise treatment and the patient's functional ability. Prerequisite: departmental consent. H 17 450 1 1212

452. Clinical Education VI. (6). 40P. Continuation of PT 442 at a different physical therapy setting. Offered Cr/NCr only. Prerequisite: departmental consent. H 17 452 2 1212

480. The Physical Therapist in Practice. (3). Management principles used by a physical therapist as an educator. Current trends in physical therapy and health care, including legal and ethical considerations. Prerequisite: departmental consent. H 17 480 0 1212

485. Topics in Physical Therapy. (1). Weekly discussion topics include those of current interest and activity within the profession. Among the topics are education and accreditation, realm of practice and competency and the changing roles and interactions of diverse health professionals. Prerequisite: departmental consent. H 17 485 0 1212

489. Basic Joint Mobilization. (2). 1R; 1L. This course is intended to provide the student with basic knowledge and skills necessary to select and perform appropriate techniques of joint mobilization for the evaluation and treatment of joint dysfunction. Prerequisite: departmental consent. H 17 489 1 1212

Courses for Graduate/Undergraduate Credit

500. Advanced Developmental Disabilities. (1). 1R; 1L. Elective. The emphasis of this course is on advanced evaluation and treatment of children with perceptual motor and/or developmental disabilities. Reading assignments, class discussions and laboratory experiences are directed toward student's interests or particular needs. Prerequisite: PT 450. H 17 500 1 1212

505. Pathophysiology I. (4). The body's defenses and responses to disorders, disease and injury are studied. The common disorders, diseases and injuries to the body systems are analyzed as to cause, effect and treatment. Prerequisite: departmental consent. H 17 505 0 1201

505. Pathophysiology II. (4). The in-depth analysis of diseases, disorders and injuries to the musculoskeletal system and to the nervous system are presented. Pathology, assessment and treatment are discussed. Prerequisite: departmental consent. H 17 605 0 1201

890. Thesis. (1-6). Repeatable to a maximum of six hours. Prerequisites: enrollment in graduate studies and consent of thesis advisor. H 17 890 4 1212

Physician Assistant Department of Physician Assistant

The physician assistant is defined as an individual who is academically and clinically prepared to provide health care services with the direction and responsible supervision of a doctor of medicine or osteopathy who is responsible for the performance of that assistant. The functions of the physician assistant include performing diagnostic, therapeutic, preventive and health maintenance services in any setting in which the physician renders care, in order to allow more effective and focused application of the physician's particular knowledge and skills. The physician assistant is accountable for his/her actions, as well as being accountable to his/her supervising physician.
All students completing the 24-month physician assistant professional curriculum receive a certificate of completion. In addition, those students who meet all University, college and department requirements will receive the Bachelor of Health Science degree. Nearly all students completing the professional course of study will meet the BHS degree requirements. Graduates of the program are eligible to take the examination given by the National Commission on Certification of Physician Assistants. Passage of this examination is required by many states for physician assistant practice, including Kansas. The Wichita State University Physician Assistant Program is fully accredited by the American Medical Association's Committee on Allied Health Education and Accreditation.

Preprofessional Curriculum

The Department of Physician Assistant maintains the philosophy that persons with varied backgrounds can be successful physician assistant students. For that reason the preprofessional curriculum varies depending on a person's prior education and/or health care experience, or the combination of education and experience. It should be noted that prior health care experience is not required, but is preferred. Interested persons should carefully examine each of the courses of study listed and follow the one that is appropriate for them. All interested persons should contact the department for clarification and help in completing the prerequisites for consideration of admission to the program. It is the desire of the department that all persons meet the requirements for the Bachelor of Health Science degree at the time of entrance into the professional curriculum. It is the intent of the Department of Physician Assistant that every student have a well-rounded education which includes a liberal arts and scientific base.

1. Applicants with a baccalaureate degree in a health profession or biology are considered to have met the prerequisites for the physician assistant professional curriculum. Those persons with an associate degree should consult a member of the department's faculty to determine if the preprofessional requirements for admission to the program and for the Bachelor of Health Science degree have been met.

2. For all others, the following must be completed:
   a. The GEC requirements
   b. Biol. 203Q (5 hours), Biol. 120Q (4 hours), Biol. 225 (3 hours), Biol. 226 (3 hours)
   c. Chem. 111Q (5 hours), Chem. 112Q (5 hours)
   d. A total of 60 semester hours of college credit
   or
   3. For any person holding a baccalaureate degree with a major not in the areas listed above, the following are required:
      a. Biol. 203Q (5 hours), Biol. 120Q (4 hours), Biol. 225 (3 hours), Biol. 226 (3 hours)
      b. Chem. 111Q (5 hours), Chem. 112Q (5 hours)

Additional requirements:
1. An overall college grade point average of 2.500/4.000
2. A C or better in all Division C work
3. A personal interview

Health care experience is not required, but is preferred. Requests for exceptions to the above will be considered on an individual basis.

General Education (36 hours)

Division A—Humanities and Fine Arts
(nine hours in at least three departments)
Division B—Social and Behavioral Sciences (six hours in at least two departments)
Division C—Natural Sciences and Mathematics (12 hours in at least two departments). Must include:
   Biol. 225, Human Anatomy . . . . . . . . 3
   Biol. 226, Human Physiology . . . . . . . . 3
   Chem. 103Q, General Chemistry .... 3
   Electrolytes—Nine hours of any "G" or "Q" courses. (All course work must be designated "G" or "Q" courses. Nine hours must be taken in General Studies (G) courses. No more than six hours may be counted in any department. No courses can be counted in the students' major department.)

NOTE: "G" courses are the most comprehensive and they serve as an overview for students not majoring in the field. "Q" courses serve majors and nonmajors. They tend to be more specialized and often are foundation courses.

General Information for Admission to Professional Curriculum

Students entering the physician assistant professional course of study are required to purchase malpractice insurance in an amount set by the State of Kansas. Students are also required to purchase all the diagnostic equipment needed for use during the two-year course of study as well as the required articles of dress.

Applications for the Physician Assistant Program are obtained from the department. Applicants should be aware that admission to the University is not admission to the Physician Assistant Program.

Selection for admission to the physician assistant professional curriculum is based on many subjective and objective factors. Each applicant is evaluated in terms of academic performance, health care experience, references, communication skills and so forth. An interview is required as part of the selection process.

Professional Curriculum

The physician assistant program curriculum consists of both classroom and clinical courses. Clinical courses are taught by physicians, physician assistants and other health care professionals in locations throughout the state.

Once admitted, students must take the following courses to meet the physician assistant professional requirements. Professional courses are available only to students in the program.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HS 388, Clinical Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>HS 389, Clinical Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>HS 390, Clinical Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HS 400, Clinical Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HS 421, Applied Clinical Pharmacology I</td>
<td>3</td>
</tr>
<tr>
<td>HS 422, Applied Clinical Pharmacology II</td>
<td>3</td>
</tr>
<tr>
<td>PA 211, Assessment and Management of the Integument</td>
<td>2</td>
</tr>
<tr>
<td>PA 212, Assessment and Management of the Cardiovascular System</td>
<td>2</td>
</tr>
<tr>
<td>PA 213, Assessment and Management of the Pulmonary System</td>
<td>2</td>
</tr>
<tr>
<td>PA 214, Assessment and Management of the Gastro-Intestinal System</td>
<td>2</td>
</tr>
<tr>
<td>PA 218, Assessment and Management of Obstetrics and Gynecology</td>
<td>2</td>
</tr>
<tr>
<td>PA 221, Assessment and Management of the Nervous System</td>
<td>2</td>
</tr>
<tr>
<td>PA 222, Assessment and Management of the Musculo-Skeletal System</td>
<td>2</td>
</tr>
<tr>
<td>PA 223, Assessment and Management of the Endocrine System</td>
<td>2</td>
</tr>
<tr>
<td>PA 226, Assessment and Management of the Renal and Genito-Urinary Systems</td>
<td>2</td>
</tr>
<tr>
<td>PA 227, Assessment and Management of Ophthalmic and Otorhinolaryngological Problems</td>
<td>2</td>
</tr>
<tr>
<td>PA 228, Clinical Skills I</td>
<td>2</td>
</tr>
<tr>
<td>PA 300, Medical History and Physical Examination</td>
<td>4</td>
</tr>
<tr>
<td>PA 302, Patient Counseling</td>
<td>2</td>
</tr>
<tr>
<td>PA 410, Clinical Rotation I</td>
<td>5</td>
</tr>
<tr>
<td>PA 412, Clinical Rotation II</td>
<td>5</td>
</tr>
<tr>
<td>PA 414, Clinical Rotation III</td>
<td>5</td>
</tr>
<tr>
<td>PA 418, Clinical Rotation IV</td>
<td>5</td>
</tr>
<tr>
<td>PA 419, Clinical Rotation V</td>
<td>5</td>
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</tbody>
</table>
Graduation Requirements

Students who meet the course requirements specified in the physician assistant curriculum will receive a certificate of completion and Bachelor of Health Science degree with a physician assistant major.

Other Requirements

Students must purchase laboratory jackets, identification patches and name tags and are required to provide their own transportation to the clinical site. Students are required to purchase diagnostic equipment and malpractice insurance in an amount of not less than $100,000/300,000. Students must provide evidence of a complete physical examination including a tuberculin skin test and MRI immunization or rubella titel prior to clinical assignment.

Lower-Division Courses

211. Assessment and Management of the Pulmonary System. (1). A theory, laboratory and clinical course dealing with the respiratory system as a major organ. Special considerations include the pneumonia, bronchial asthma, tuberculosis, chronic inflammatory disease; management of chronic obstructive pulmonary disease; special diagnostic techniques with regard to diagnosis of pulmonary disorders and infection. May be repeated for credit. H 19 211 0 1299

212. Assessment and Management of the Cardiovascular System. (2). A combined theory, laboratory and clinical course dealing with the cardiovascular system. Special considerations include pathology and treatment of coronary arterial disease, congestive heart failure, hypertension, valvular heart disease, acute coronary care units and cardiopulmonary resuscitation. Management of vascular and cardiovascular emergencies. Cardiovascular rehabilitation and investigations. H 19 212 0 1299

213. Assessment and Management of the Pulmonary System. (2). A theory, laboratory and clinical course dealing with the pulmonary system. Special considerations include pulmonary infections, bronchial asthma, tuberculosis, chronic inflammatory disease; management of chronic obstructive pulmonary disease; special diagnostic techniques with regard to diagnosis of pulmonary disorders and infection. May be repeated for credit. H 19 213 0 1299

214. Assessment and Management of the Gastro-intestinal System. (2). A theory, laboratory and clinical course dealing with the gastro-intestinal (GI) system. Special considerations include assessment of diseases of organs in the GI tract, special problems of the newborn, relationships of the autonomic nervous system to GI symptomatology, roentgenology of the GI tract. GI manifestations of psychiatric disturbances and demonstration of special diagnostic instruments. H 19 214 0 1299

218. Assessment and Management of Obstetrics and Gynecology. (2). A theory, laboratory and clinical course dealing with obstetrics and gynecology. Special considerations include the menstrual cycle, pregnancy, complications of pregnancy, delivery, maternal and infant health, prenatal care. H 19 218 0 1299

222. Assessment and Management of the Musculo-Skeletal System. (2). A theory, laboratory and clinical course dealing with the musculo-skeletal system. Special considerations include congenital anomalies; orthopedic emergencies; fractures, dislocations, strain, splitting and casting, the common arthritides, medical rehabilitation. H 19 222 0 1299

223. Assessment and Management of the Endocrine System. (2). A theory, laboratory and clinical course dealing with the endocrine system. Special considerations include diabetes mellitus, thyroid disorders, adrenal disorders, endocrine emergencies, and the treatment of endocrine diseases. H 19 223 0 1299

226. Assessment and Management of the Renal and Genito-Urinary Systems. (2). A theory course dealing with the kidneys and bladder and prostate. Special considerations include hypertension, urinary tract infections, renal calculi, and special diagnostic instruments. Renal and genito-urinary disorders are considered with special emphasis on management, treatment and epidemiology. H 19 226 0 1299

227. Assessment and Management of Ophthalmic and Otorhinolaryngological Problems. (2). A theory course dealing with potential pathophysicslogy of the eye, ear, nose, and throat. Special emphasis is placed on otology, diagnosis and treatment of otologic and otorhinolaryngological (ENT) conditions. Special emphasis is placed on otolaryngology. A variety of common ophthalmic and otorhinolaryngological conditions are examined with special emphasis on management, treatment and epidemiology. H 19 227 0 1299

228. Clinical Skills I. (2). A combined laboratory and clinical course with an emphasis in which students apply their knowledge to the care of patients. Special considerations include the physical examination with emphasis on anatomic and physiologic basis to understanding the examination with examples of normal and abnormal findings; medical terminology; evaluation of patients; patient rapport and professional conduct. Lecture, simulation and clinical application are employed in this course. Prerequisite: admission to the PA program. H 19 228 0 1299

281. Cooperative Education Field Study. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by the student's faculty advisor and cooperative education coordinator. Students enrolled in Co-op 281 may follow one of two scheduling patterns: parallel, enrolling concurrently in a two-semester course work in addition to their co-op assignment, or alternating, working full time one semester in a field study and returning to full school enrollment the following semester, such students need not be concurrently enrolled in any other course. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 19 281 0 1299

Upper-Division Courses

300. Medical History and Physical Examination. (4). 3R; 2L. This course will provide the theoretical and practical knowledge that can be utilized to obtain an acceptable medical history and/or conduct a proper physical examination (examination and charting of patient). Also, the course will focus on the identification of normal and abnormal physical findings. Practice of methods and techniques learned in the course will take place in a faculty-processed laboratory setting. Prerequisite: admission to the PA professional program. H 19 300 0 1299

302. Patient Counseling (2). The theories and techniques of patient counseling are considered with an emphasis on effective communication, basic counseling techniques and basic strategies for therapeutic intervention. The course will deals with the philosophies of counseling for a wide range of cognitive and behavioral problems common to the primary care setting. Prerequisite: admission to the PA professional program. H 19 302 0 1299

410. Clinical Rotation I. (5). A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on orientation to medical practice setting and obtaining and recording a complete and/or problem-oriented medical history. Students will obtain and record complete and/or problem-oriented physical examination data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimen. Students will, at the discretion of the preceptor, be included in all aspects of health care services. Prerequisite: admission to the PA professional program and faculty approval. H 19 410 1 1299

412. Clinical Rotation II. (5). A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on obtaining and recording complete and/or problem-oriented physical examination data. Students will obtain and record complete and/or problem-oriented physical examination data. Students will be included in all aspects of health care services offered at the site. Prerequisites: admission to the PA professional program and faculty approval. H 19 412 1 1299
414. Clinical Rotation III. (5). A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on common diagnostic procedures and/or problem-oriented data bases and become involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to the PA professional program and faculty approval. H 19 419 1 1299

419. Clinical Rotation V. (5). A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on recognizing the signs and symptoms of uncommon illnesses. Students will obtain and record complete and/or problem-oriented data bases, perform and/or select appropriate diagnostic procedures, and become involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to the PA professional program and faculty approval. H 19 419 1 1299

422. Clinical Rotation VI. (5). A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on integrating the skills and knowledge obtained in previous rotations, as well as health promotion, disease prevention, and patient education. Students will obtain and record complete and/or problem-oriented data bases and perform and/or select appropriate diagnostic procedures, therapeutic regimens and follow-up. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to the PA professional program and faculty approval. H 19 422 1 1299

425. Clinical Rotation VII. (5). A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on integrating the skills and knowledge obtained in previous rotations, as well as health promotion, disease prevention, and patient education. Students will obtain and record complete and/or problem-oriented data bases and perform and/or select appropriate diagnostic procedures, therapeutic regimens and follow-up. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to the PA professional program and faculty approval. H 19 425 1 1299

430. Clinical Conference I. (2). 1R; 2L. The major focus of this course is the synthesis of didactic and clinical education and training as it applies to primary health care delivery. Students will integrate didactic and research activities with an emphasis on problem solving, critical thinking and practical application. Evaluation will be toward student achievement as indicated by the student to identify clinical weaknesses and strengths. Prerequisite: student in PA professional program. H 19 430 1 1299

432. Clinical Conference II. (3). 1R; 3L. The course is offered in the spring semester to clinical physician assistant students. The primary focus of the class is on issues affecting the graduate physician assistant, which include legislative issues, professional associations and responsibilities, practice limitations, malpractice issues, etc. This course includes review sessions for the National Board Examination utilizing lecture, demonstration and computer-assisted instruction. Prerequisites: concurrent enrollment in PA 430 and instructor's consent. H 19 432 1 1299

440. Clinical Preceptorship. (6). An eight-week course designed as a culmination of the student's clinical training. Students are placed with a primary-care physician to enable them to function as members of the health-care team in a setting similar to that which would be encountered by the graduate physician assistant. H 19 440 1 1299

481. Cooperative Education Field Study. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate departmental sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment, or alternating, working full time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 19 481 1 1299

Respiratory Therapy

Department of Clinical Sciences

Respiratory therapy is an allied health specialty employed in the treatment, management, control and care of patients with deficiencies and abnormalities associated with the respiratory system.

It encompasses the therapeutic use of medical gases; air and oxygen administering apparatus; environmental control systems; humidification and aerosols; drugs and medications; ventilatory assistance and ventilator control; postural drainage; chest physiotherapy and breathing exercise; respiration rehabilitation; assistance with cardiopulmonary resuscitation; and maintenance of natural, artificial and mechanical airways. Specific testing techniques can be employed in respiratory therapy to assist in diagnosis, monitoring, treatment and research, including measurement of ventilatory volumes, pressure and flows and blood gas analysis.

The Respiratory Therapy Program is fully accredited by the Committee on Allied Health Education and Accreditation for the Education of Respiratory Therapists. Following completion of the professional program, students meet the educational requirements for examination by the National Board for Respiratory Care for Registered Respiratory Therapist (RRT) registration. The Bachelor of Health Science degree is available to respiratory therapy students who seek to expand their roles in education, administration or clinical sciences. Students interested in more information should contact the Respiratory Therapy Program.

Associate of Science in Respiratory Therapy

Preprofessional Curriculum

The respiratory therapy curriculum consists of both classroom and clinical courses. The majority of the classroom courses are taught on the Wichita State campus while the clinical courses are taught in clinical affiliations.

The following courses should be taken by respiratory therapy students desiring an Associate of Science in respiratory therapy. Due to course scheduling and/or availability, students may or may not complete all requirements for the Associate of Science degree in two years.

Recommended Courses

Courses  Hrs.  Semester  Sequence

Communications (six hours)

Eng. 101, College English I 3 1
Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication 3 2

Division A—Social and Behavioral Sciences

Psych. 111Q, General Psychology 3 2

Division B—Natural Sciences and Mathematics

Bio. 120Q, Introduction to Microbiology 4 3
Biol. 225, Human Anatomy 3 1
Biol. 226, Elementary Human Physiology 3 2
Admission to the Professional Curriculum

Students submitting application to the professional program are eligible for consideration after they have met Wichita State and College of Health Professions general admission requirements with a minimum grade of C in the prerequisites and have a grade point average of at least 2.000. Admittance to the program must be requested through an application submitted to the respiratory therapy program.

Professional Curriculum

The following courses are required in the professional curriculum. For course descriptions see the respiratory therapy baccalaureate program section of the Catalog: For current program requirements and admission dates see departmental adviser.

Courses

<table>
<thead>
<tr>
<th>Division C—Natural Sciences and Mathematics (42-44 hours)</th>
<th>Hrs.</th>
<th>Semester Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Chemistry...</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Math. 109, College Algebra with Review, or Math. 111, College Algebra</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Phys. 111Q, Introductory Physics, or Phys. 131, Physics for the Health Sciences...</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

* HS 301, Clinical Pharmacology... | 3   | 6                 |

These courses may be taken before or during the professional curriculum.

Special Requirements

Students are required to purchase uniforms and other items needed during clinical learning experiences. Students are also required to purchase professional liability insurance. For specific information, please contact your departmental adviser each semester. In addition, students are required to provide their own transportation to and from the health care agencies used for clinical experiences.

Information related to special requirements is available to students in the Respiratory Therapy Program, The Wichita State University, Wichita, Kansas 67208-1595.

Lower-Division Courses

101. Overview of Respiratory Therapy. (3). An overview of the profession, the cardiopulmonary system and therapy modalities. H 13 101 0 1299

102. Cardiopulmonary Resuscitation. (1). Instruction and supervised practice of cardiopulmonary life support plus introduction to basic terminology and principles of circulation and respiration are presented with special emphasis on guidelines for prudent heart care. H 13 102 0 1299

111. Introduction to Respiratory Therapy. (1-4). A course to familiarize students with the history and evolution of respiratory therapy and with the role of the respiratory therapist in the health care community. Major components also include the study of medical terminology and the application of basic scientific principles pertinent to respiratory therapy practice. Prerequisite: departmental consent. H 13 111 0 1299

202. Respiratory Therapy Practicum I. (1-5). The student acquires practical experience in an affiliated health care agency. Course stresses therapy in noncritical areas, as well as overall departmental operations. Prerequisite: completion of RT 201. H 13 202 0 1299

203. Respiratory Therapy Practicum II. (1-5). A continuation of RT 202 but with greater emphasis on the critically ill and diagnostic and treatment areas of respiratory therapy. Prerequisite: RT 202. H 13 203 0 1299

212. Respiratory Therapy Procedures. (1-5). This course presents the basic therapeutic and diagnostic skills and techniques used by the respiratory therapy practitioner which can be developed in a skills laboratory. Included are medical gas therapy, humidity and steam therapy. Prerequisite: RT 111. H 13 212 1 1299

222. Introductory Clinical Practicum. (1-3). This course is the student's first introduction to the clinical environment and practice of basic therapeutic skills that are required of the respiratory therapist. Prerequisite: RT 212. H 13 222 2 1299

281. Cooperative Education Field Study. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by the appropriate faculty sponsor and cooperative education coordinator. Students enrolled in Co-op 281 may follow one of two scheduling patterns: Parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment, or Alternating, working full time one semester in a field study and returning to full school enrollment the following semester, such students need not be concurrently enrolled in any other course. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 13 281 2 1299

Upper-Division Courses

301. Seminar I. (2). Discussion of departmental operations. Prerequisite: RT 222. H 13 301 9 1299

302. Seminar II. (2). Discussion of advanced skills and techniques involving patient and preparation of case studies. Prerequisite: departmental consent. H 13 302 9 1299

310. Respiratory Therapy Practicum III. (1-6). Students practice advanced therapeutic techniques in the hospital environment. Prerequisite: RT 435. H 13 310 2 1299

320. Clinical Projects. (1-3). Provides an opportunity for the student on an individual basis to select a topic for independent investigation. Repeatable to six hours. H 13 320 4 1299

325. Cardiopulmonary and Renal Physiology. (1-5). An in-depth study of pulmonary and cardiovascular physiology accompanied by an overview of the kidney's role in fluid, electrolyte and acid-base balance. Emphasis is placed on understanding essential mechanisms of normal function within this context. Knowledge is applied in interpreting diagnostic studies and in understanding disorders of function. Prerequisite: departmental consent. H 13 325 1 1299

330. Blood Gases: Clinical Application, Instrumentation and Quality Control. (1-3). May be repeated to six hours. Blood gases, acid-base theory, clinical application, blood gas analysis and quality control are presented. Modern monitoring trends and equipment usage are emphasized and demonstrated. Prerequisites: college chemistry and human physiology, or departmental consent. H 13 330 0 1299

360. Pulmonary Rehabilitation. (1-5). Objectives, methods and expected results are presented and discussed. Patient testing methods, including clinical exercise testing, patient and family education, bronchial hygiene, breathing retraining, biofeedback, physical reconditioning and home care, are described and discussed. Prerequisite: departmental consent. H 13 360 0 1299

425. Cardiopulmonary Disorders and Management. (1-6). A study of the diagnosis, treatment and management of cardiopulmonary disorders. Emphasis is placed on (1) interpretation of diagnostic tests, (2) applying these interpretations to the treatment and management of the disease and (3)
understanding essential mechanisms of disordered function. Patient management problems and case study approaches are used. Prerequisite: RT 222. H 13 426 0 1299

435. Ventilators and Applied Critical Care. (1-6). A study of mechanical ventilators and applied critical care, including monitoring techniques, criteria for ventilatory support and aspects of critical care. Prerequisite: departmental consent. H 13 435 1 1299

450. Introduction to Neonatal Respiratory Care. (3). This course provides an overview of the basic principles and techniques utilized in the cardiopulmonary management of the high-risk neonate. Physiologic, laboratory and roentgenographic assessment, pathophysiology, monitoring and therapeutic techniques will be discussed. Prerequisite: departmental consent. H 13 450 0 1299

465. Cardiopulmonary Diagnostic, Preventive and Rehabilitative Methods. (5). Study of cardiopulmonary diagnostic procedures, disease prevention and intervention and cardiopulmonary rehabilitation. Stress testing, exercise physiology and home care concepts are practiced in lab and clinical practicum. Prerequisite: admission to program or departmental consent. H 13 465 3 1299

481. Cooperative Education Field Study. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment, or alternating, working full time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 13 481 2 1299
The Bachelor of Arts, Bachelor of a minimum of 124 credit hours, the at­
Science and Bachelor of General Stud­
average of 2.000 including transfer work,
opportunities for the future by offering courses and curricula representing the
newest developments in the world of learning.

For some time, the college has rec­
ognized four main areas of study: (1) preparation for professional and technical
careers, (2) specialization through departmental majors, (3) cross-cultural
education and (4) preparation for teaching. In recent years, however, the college faculty has expanded these traditional forms of education and the use of field majors. Substantial flexibility exists within all these areas for the college
serves both those who come directly from high school and those who return after many years away from school.

Degrees Offered

Baccalaureate

The Bachelor of Arts, Bachelor of Science and Bachelor of General Stud­
dies degrees are conferred by Fairmount College of Liberal Arts and Sciences. Each degree requires the completion of a minimum of 124 credit hours, the at­
tainment of an overall grade point average of 2.000 including transfer work, a grade point average of 2.000 in the major field of study and a 2.000 WSU grade point average.

Bachelor of Arts degrees are offered in American studies, anthropology, art history, biological sciences, chemistry, computer science, classical languages, economics, English, French, geology, German, gerontology, history, journalism, communicative disorders and sciences, mathematics, minority studies, music, philosophy, physics, political science, psychology, social work, sociology, Spanish, speech communication, studio arts, theatre and women’s studies. Bachelor degrees began to be phased out beginning in 1987 in linguistics and religion; however, students in both programs will be accommodated. Both areas will be emphases within the general studies program.

The Bachelor of Science is available in administration of justice, biological sciences, chemistry, computer science, geology, mathematics and physics.

The Bachelor of General Studies is a nondepartmental degree which requires breadth in distribution, course work and allows for the development of areas of concentration which may be thematically or occupationally related.

Associate

Associate degrees require completion of a minimum of 60 hours for the Associate of Arts with 15 of these hours in resi­
dence. An overall grade point average of 2.000, a grade point of 2.000 in the major field of study and a WSU grade point average of 2.000 are also required.

Associate of Arts degrees are con­
ferred in humanities, social sciences, and natural sciences and mathematics.

Graduate

Graduate programs are offered through the Graduate School in many liberal arts and sciences areas. The Master of Arts
(MA) may be earned in anthropology, communications (interdisciplinary), En­
glish, gerontology, history, political science, psychology, sociology and Spanish. The Master of Science (MS) may be obtained in biological sciences, chemistry, geology, mathematics and physics.

The Master of Computer Science (MCS) is awarded in computer science; the Master of Fine Arts (MFA) in creative writing; the Master of Administration of Justice (MAJ) in administration of justice; the Master of Education (Med) in speech; the Master of Arts in Liberal Studies (MALS) in interdisciplinary studies and the Master of Public Administra­tion (MPA) in public administration.

The Doctor of Philosophy (PhD) is offered in applied mathematics and in chemistry.

For more information, consult The Wichita State University Graduate Bulle­
tin.

Policies

Admission

Students may be admitted to Fairmount College of Liberal Arts and Sciences upon successful completion of 24 se­
semester hours with an overall grade point average of 2.000. Students must com­
plete all basic skills courses (English 101 and 102 with grades of C or better; Speech 111 or 112; and Math 109, 111, 112 or 211) prior to admittance to Fair­
mount College.

Probation and Dismissal

Students are placed on probation when­
ever their cumulative or WSU grade point average falls below 2.000. Proba­
tion is removed when the overall grade point average reaches the required 2.000 level. Students continue on pro­
bation when they earn a 2.000 or better semester average and their overall grade point average remains below 2.000. If students on probation fail to earn at least a 2.000 semester average, and if their overall grade point average remains below 2.000, they will be dis­
missed. Students on probation will not be academically dismissed unless they have attempted at least 12 hours after being placed on probation. When dis­
missed, students may reenroll only with the permission of the college’s Commit­
tee on Admissions and Exceptions.

Application for Graduation

Every student seeking a degree from the college must apply for graduation and complete a degree card at the end of the semester in which 90 credit hours have been earned. Although graduation may be several semesters away, both application and degree card must be com­
pleted at this time. Applications filed in the semester in which graduation is inten­
ded may result in a delay in actual graduation by one or more semesters.

Students planning to receive the Bachelor of General Studies degree will declare their intention at least 30 hours before the degree is granted. A plan of study including the area of concentration should be initiated as soon as possible—but no later than 30 hours before the degree is granted—with the Bache­
or of General Studies adviser in the pri­
mary department of interest (see Area of Concentration below). The plan of study must be approved by the BGS Policy Committee, a subcommittee of the Cur­
rriculum and Academic Planning Com­
mittee of Fairmount College. This plan will be submitted along with other applica­tion for graduation materials to the Liberal Arts and Sciences dean’s office. Thirty credit hours must be completed after the student’s declaration to pursue the Bachelor of General Studies degree is filed.
Applications and degree cards may be obtained from the college office, Room 200, Liberal Arts and Sciences.

Field Trips
Attendance on field trips is mandatory in any course that includes in its Catalog description a statement that field trips are required or in which the instructor states that field trips are essential for earning credit. Absences are permitted only with the instructor’s prior approval. Students may have credit withheld for a course if they do not complete the required field trips.

External Credit Program
The External Credit Program applies only to courses offered by departments and programs within Fairmount College. It allows persons to earn credit for learning that has taken place outside the traditional classroom such as business or industry training programs, extensive experience in community service and volunteer work, operating a business or holding elective office.

In order to receive credit for such learning, applicants must demonstrate knowledge equivalent to that gained in regularly offered University courses to the satisfaction of faculty in the appropriate fields of study. The associate dean in charge of external credit will help decide which departments and programs within the college may give credit for nontraditional learning and representatives in those areas will determine the kind of documentation needed as evidence of this learning.

Students in the External Credit Program must be admitted to The Wichita State University and are required to pay a nonrefundable assessment fee which covers faculty assessment time. University and college equivalency examination fees will apply to all credit awarded. Applicants will be advised of these fees upon entering the program.

Cooperative Education
The Fairmount College of Liberal Arts and Sciences participates in the Cooperative Education program which finds paid internships for undergraduates and graduates who wish to combine their classroom studies with academically related employment.

Further information is available in the Cooperative Education office, 125 McKinley Hall, or the academic information section of the Catalog.

Requirements for Graduation
Bachelor of Arts, Bachelor of Science and Bachelor of General Studies

The following college requirements must be met in order for students to receive the Bachelor of Arts (BA), the Bachelor of Science (BS), or the Bachelor of General Studies (BGS) degrees from the college. Courses taken to fulfill these requirements also satisfy the University’s general education distribution requirements. The requirements for the BA, BS and BGS fulfill all University graduation requirements except the following:

1. Communications—six hours of composition and three hours of oral communication (a grade of C or better must be earned in both Eng. 101 and 102).
2. General Education—30 hours of “C” and “G” courses including a minimum of nine “G” hours. These courses may be used to satisfy University liberal arts and college distribution requirements.
3. Upper Division—at least 30 semester hours of credit in courses numbered 300 or above.
4. Residence—at least 30 semester hours of course credit at Wichita State.
5. D Grades—no students are allowed credit toward graduation for D grade work in excess of one-quarter of the total hours.

I. Humanities. Candidates for the BA and BGS degrees must take 12 to 15 hours of courses in at least three of the following subdivisions. Three to six hours from the major or the area of concentration may be included.

1. American Studies
2. Literature (see Item II), English Language and Literature
3. Foreign Language Literature
4. History
5. Humanities
7. Philosophy
8. Religion
9. Speech Communication
10. Women’s Studies
11. Art History (any course) and Music—Mus.-Comp. 113Q, 114, 160G, 161, 162

II. Literature. Students must complete at least three hours of literature. Foreign language literature courses taken after completion of the foreign language requirement (if any) may be used to meet the literature requirement and to count for humanities hours.

III. History—Political Science. Students must demonstrate proficiency in the field of the American political system and institutions either by passing Hist. 131Q or 132Q or Pol. Sci. 121Q or by passing an examination offered each semester by the history and political science departments.

IV. Social and Behavioral Sciences. Candidates for the BA and BGS degrees must take 12 to 15 hours of courses in at least three of the following subdivisions.

Six hours from the major or the area of concentration may be included.

1. Administration of Justice
2. Anthropology
3. Economics—Econ. 101G, 102, 202Q and all upper-division courses
4. Geography—all courses except Geog. 201 and 235
5. Gerontology
6. Journalism
7. Minority Studies
8. Political Science
9. Psychology
10. Sociology/Social Work

† A total of 27 hours must be taken in the humanities and social sciences by candidates for the BS degree.

‡ A total of 18 hours must be taken in the humanities and social sciences by candidates for the BS degree.

V. Natural Sciences. Each student must take 12 semester hours including four hours in a laboratory science. Each student must take at least one course in each of the physical and biological sciences divisions listed below or students who have taken two units of high school laboratory science (exclusive of general science) must take at least nine hours, including four hours in a laboratory science and one course in each of the physical and biological sciences divisions as listed below. Six hours in mathematics or natural sciences must be in “G” or “Q” courses.

1. Physical Sciences: Chem. 101G, 3 hours; 103Q, 5 hours; 111Q, 5 hours; 112Q, 5 hours; and all other courses except Chem. 201.
2. Geog. 201, 3 hours; and 235, 3 hours. (No other geography courses count toward the physical science division.)
3. Psychol. 101Q, 3 hours; 111Q, 4 hours;
VI. Mathematics. Students must demonstrate proficiency by passing Math. 108, 111, 112 or 211, or by passing an examination of equivalent mathematical skills. Six hours in mathematics or natural sciences must be in "G" or "Q" courses.

VII. Foreign Languages. Candidates for any BA degree and for the BS degree in administration of justice must demonstrate proficiency at a level equivalent to five hours beyond the 112 course in one foreign language or equivalent to the completion of the 112 course in two foreign languages. This proficiency may be demonstrated in either of the following ways:

1. Students may successfully complete 111 and 112, plus five additional hours in one foreign language, or 111 and 112 in two foreign languages.

2. Other foreign language experience, or high school foreign language study at the rate of one high school unit for each college semester, may apply toward the required proficiency.

A student who has credit in two years of a high school foreign language may enroll in 111 and 112 for credit without departmental consent.

A student who has credit in three or more years of high school foreign language may take 111 and 112 for credit only if departmental consent has been received in writing. Otherwise, a student who has credit in three or more years of a high school foreign language may enroll in any 200-level course for credit without departmental consent.

Candidates for the BS within the division of natural sciences and mathematics have no foreign language requirement unless it is required by the department. In that case, the foreign language required does not count in the humanities section of the general education distribution requirements.

The BGS also has no foreign language requirement.

* The division of natural sciences and mathematics includes the departments of biological sciences, chemistry, geology, mathematics, physics and computer science.

VIII. BA, BS: Major. All specific departmental major courses and requirements are listed in the Catalog by departments. While the department controls its own requirements for the major, the following expectations apply to all department majors:

1. A 2.00 grade point average is required in the major.

2. No more than six hours from the major can be used to satisfy college distribution requirements.

3. General Studies courses may not be used as hours in the major unless approved by the department.

4. At least 12 upper-division hours are required in the major.

5. No more than 45 hours in the major can be used for graduation with a BA degree and no more than 50 hours in the major can be used for graduation with a BS degree.

6. The same hours cannot be used to satisfy requirements for two or more majors or minors or combination thereof.

IX. Combined Major. A BA degree with a combined major, consisting of 24 hours from one field of study and 12 hours from an allied field of study, may be designed under the advisement of the major departments and Fairmount College of Liberal Arts and Sciences.

X. Field Major. Field majors in biochemistry, chemistry/business, classical studies, gerontology and international studies are available. Other field majors may be designed by students who wish to select three or more correlated areas of study and develop an acceptable plan of course work. Field majors must adhere to the following rules:

1. At least 18 hours must be taken in one department and nine hours in each of two allied departments (36 hours total) with at least 12 of these hours upper division.

2. A plan of study must be developed in consultation with and approved by an adviser in the major area of study and the dean's office of Fairmount College of Liberal Arts and Sciences.

XI. Minor. Minors are offered in geography, Italian and all fields of study in which a major may be earned. Minors acceptable from outside the college are education (those courses necessary for certification), accounting and business administration. The number of hours required for a minor is set by each department.

XII. BGS: Area of Concentration. The Bachelor of General Studies degree allows students who wish to design their own programs of study greater freedom by reducing some of the requirements of the other bachelor's degrees for the purpose of allowing the student to develop areas of concentration which may cross departmental, or even college lines. The Bachelor of General Studies degree allows the student to become a generalist and may allow professional or nontraditional career students greater flexibility in planning for their unique future.

With the assistance of the Bachelor of General Studies advisor in the department of primary interest, each student pursuing a Bachelor of General Studies degree will develop a plan of study which outlines an area of concentration incorporating a minimum of 33 hours. No fewer than 15 and no more than 21 of these hours will be taken in a "focal" or primary department. The remaining 12 to 18 hours must be divided between at least two other departments. Concentrations may cross departmental or college lines in that they may be thematically or occupationally related. No general studies courses ("G" courses) will count toward the "primary" portion of the concentration but will be allowed in the additional portions.

Distribution requirements limit course work to no more than 30 hours from one department, to no more than 60 hours in one division and to no more than 30 out-of-college hours.

XIII. Nonliberal Arts and Sciences Courses. Students may count only 24 hours of nonliberal arts and sciences courses toward either the BA or BS degree. 30 hours of nonliberal arts and sciences courses may count toward the BGS degree. (This includes courses taught outside of departments in the liberal arts and sciences.) Any nonliberal arts and sciences courses required by a major within the college will apply to LAS hours required for the degree.

Associate Degrees
Two-year associate degree programs offered by Wichita State are part of the regular academic programs and credits earned in them are transferable to four-year, baccalaureate degree programs. Areas of concentration within the AA degrees encompass a logical combination of courses to provide initial occupational expertise in selected areas or to help students fulfill academic, personal, social or cultural objectives. Candidates must complete at least 15 hours in one area of concentration.

Associate of Arts in Humanities
The associate degree in humanities requires 60 semester hours including the following requirements:

1. General Education (30 semester hours)

2. English composition—six hours
2. Oral communication—three hours
3. Social sciences—six hours
4. Natural sciences and mathematics—six hours
5. Humanities—six hours
6. Electives—three hours
II. Area of Concentration (15-20 semester hours)
At least 15 to 20 semester hours of course work must be taken from the following general areas with at least three courses from one discipline.

American Studies
Art
English
History
Modern Languages
Music
Philosophy
Religion
Speech Communication
Women's Studies
III. General Electives (10-15 semester hours)
Students must select at least ten to 15 hours of elective courses in consultation with their academic adviser to support the overall objectives of their degree program.

Associate of Arts in Social Sciences
The associate degree in social sciences requires 60 semester hours, including the following requirements:
I. General Education (30 semester hours)
1. English composition—six hours
2. Oral communication—three hours
3. Social sciences—six hours
4. Natural sciences and mathematics—six hours
5. Humanities—six hours
6. Electives—three hours
II. Area of Concentration (15-20 semester hours)
At least 15 to 20 semester hours of course work must be taken from the following general areas with at least three courses from one discipline:
- Administration of Justice
- Anthropology
- Broadcasting
- Economics
- Geography
- Journalism
- Minority Studies
- Political Science
- Psychology
- Sociology/Social Work
III. General Electives (10-15 semester hours)
Students must select at least ten to 15 hours of elective courses in consultation with their academic adviser to support the overall objectives of the degree program.

Special Programs of Study
Fairmount College of Liberal Arts and Sciences provides basic courses for certain professional fields and for subsequent professional studies. Liberal arts studies are vital in establishing background resources for such areas.

Field Major
Students may select a major that correlates three or more fields of study to receive a broad appreciation of the cultural and dynamic factors of human conduct. The selection of courses must be made with an adviser and with the dean's approval. Although such a major cuts across departmental lines and is determined by the field of specific interest, the combination of courses must be acceptable to the college. Normally 36 hours are required for the major with 18 hours in the major department and at least nine in each of the two allied departments. Students may work with an academic adviser in developing an appropriate field major or may use one of the predesigned field majors indicated below:

Biochemistry

Biochemistry. Biochemistry is a rapidly growing science in which many important advances have been made in the last two decades. It requires both an understanding of biological processes and a knowledge of sophisticated techniques of chemistry and physics. The field major in biochemistry is designed to prepare students for employment or further study in this area.

Students choosing this field major should seek the advice of the chairperson of the Department of Biological Sciences or the Department of Chemistry as early as possible. Both the biological sciences and chemistry sections of the Catalog provide complete descriptions of this major. Students must meet the BS graduation requirements in the college.

Chemistry/Business.

Chemistry/Business. See the chemistry section of the Catalog for complete description.

Classical Studies.

Classical studies is an interdisciplinary program designed to give students a sense of continuity and to interpret the values, ideas and ideals of antiquity as shown in its history, art, mythology, literature, political institutions and religions. The major also serves as a foundation and a sound preparation for areas in which sensitivity to language and ideas is an important tool—classics, linguistics, ancient history, art history, archaeology, comparative literature, law, religion and Near Eastern studies.

The major consists of 36 hours which must be selected from a list of approved courses, except that courses of independent study in one of the departments of the field major may count toward the major if the subject matter is at least half classical. For further information and a list of approved courses contact the Department of Modern and Classical Languages and Literature.

Gerontology.

See gerontology section for a complete description.

International Studies.

The program for the international field major is flexible and is designed to meet the need for specialists in foreign areas, international government or international economics, government, business and international organizations. Students are prepared for careers in international organizations in the U.S. government and in business firms with international activities.

Two options are available: Option A is in area studies; Option B is a combination of area studies and international business. No minor is required for either option. Students interested in Option A should contact Professor John Dreifort (history); those interested in Option B...
should contact Professor Dharma de Silva (management) or Professor Drei­fort.

Art History
The art history program is designed to prepare students for the whole range of activities related to the art of the past: criticism, college-level and secondary­level teaching and conservation. Re­quirements and curriculum for a major or minor in art history in Fairmount College of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Art and Design, section of the Catalog.

Studio Arts
Requirements and curriculum for a major or minor in studio arts in Fairmount Col­lege of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Art and Design, section of the Catalog.

Communicative Disorders and Sciences (Logopedics)
Requirements and curriculum for a major or minor in communicative disorders and sciences in Fairmount College of Liberal Arts and Sciences are listed in the College of Education section of the Catalog.

Music
Requirements and curriculum for a major or minor in music in Fairmount College of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Music, section of the Catalog.

Theatre
Requirements and curriculum for a BA in theatre in Fairmount College of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Performing Arts, section of the Catalog.

Special Preprofessional Programs
Advisers in the various preprofessional fields and closely related departments provide specific information regarding courses and requirements.

Prelaw
The Association of American Law Schools states that students interested in pursuing a law degree should get a broad undergraduate education that provides "comprehension and expres­sion in words, critical understanding of the human institutions and values with which the law deals and creative power in thinking." These qualities are to be achieved through disciplined study in fields of the student's choice. Require­ments for the bachelor's degree provide students with both a general education and a concentration in a field of major study. Pre­law advisers may be contacted through the college office in Room 200 of the Liberal Arts and Sciences building where students can find information about entrance requirements for law school so that undergraduate programs may be appropriately arranged.

Prelaw advisers are to be aware that all applicants must complete at least 84 hours (or 90 hours if pre­law counseling was begun in the sophomore year) of liberal arts work and must also be in the top 50 percent of their class. The College of Liberal Arts and Sciences can provide a specific program of course work.

Schedules also may be arranged to meet entrance requirements of the various schools of optometry, osteopa­thy, pharmacy, podiatry, chiropractic, mortuary science and related professional fields. The office of the premedical professions counselor is in Room 200 of the Liberal Arts and Sciences building.

Pretheological
Students interested in pursuing graduate theological work should consult with the religion department chairperson for specific requirements set forth by specific seminaries.

Teaching
Students in Fairmount College of Liberal Arts and Sciences may qualify for sec­ondary teaching certificates in Kansas and additional states. Those who plan to qualify for the standard secondary teaching certificate must complete the program outlined in the College of Education section of the Catalog.

Administration of Justice
The Department of Administration of Justice offers two degree programs: (1) Bachelor of Science and (2) Master of Administration of Justice. A third program, the Associate of Science degree, began being phased out in 1987 but students presently enrolled will be accommodated. These degree programs are designed to provide preservice and inservice students with a broad educational background in all aspects of the administration of justice field. Within the Bachelor of Science and Master of Ad­ministration of Justice degree programs, the student may select among several established areas of specialization.

Bachelor of Science—Major and Minor
Major. The major in administration of justice consists of at least 33 hours (but not more than 50 hours) including AJ 100Q, 201, 220Q, 403, 512 and 521, 12 hours in one of the following areas of specialization; and a minimum of three with a maximum of 20 additional elective hours in administration of justice (except in the general administration of justice track, where a minimum of 15 hours of electives are required).

I. Law Enforcement (12 hours). This area involves a study of the law enforce­ment role in society and the methods used by law enforcement agencies to achieve criminal justice goals. Course
work in this area includes a minimum of 12 semester hours selected from the following courses: AJ 143, 320, 340, 343, 344, 606, 610Q and 422 (or 481).

II. Courts (12 hours). This area concerns the "adversary process" of the criminal justice system. Course work includes a minimum of 12 hours to be selected from the following courses: AJ 320, 520, 533, 606, 610Q, 641 and 422 (or 481).

III. Corrections Services (12 hours). This area involves rehabilitative casework and supervision of convicted offenders in both correctional institutions and the community. Course work in this area to be selected from the following courses: AJ 533, 560, 606, 641, 653, 665, 666, 660 and 422 (or 481).

IV. Criminal Justice Administration (12 hours). This area concerns the management of various criminal justice agencies. Course work in this area to be selected from the following courses: AJ 501, 510, 606, 633, 636, 639, 680Q and 422 (or 481).

V. Investigation (12 hours). This area encompasses scientific and traditional criminal investigation services provided by law enforcement agencies. Course work in this area to be selected from the following courses: AJ 320, 340, 343, 344, 345, 643, 646 and 422 (or 481).

VI. Security Services (12 hours). This area concerns the management procedures, technological systems and operational research functions of contract, industrial and institutional security agencies. Course work in this area to be selected from the following courses: AJ 340, 343, 370, 570, 572, 670 and 422 (or 481).

VII. General Administration of Justice (15 hours). This area offers an overview of administration of justice and an exposure to a variety of specializations. Students must choose 15 elective hours from any combination of courses listed in the channels above and/or from the following nonclassified courses: AJ 303Q, 382Q, 421, 445 and 600.

Students seeking the Bachelor of Science (BS) degree with a major in administration of justice must complete at least 21 semester hours of upper-division course work in administration of justice. Upper-division course work is defined as junior- and senior-level course work offered by an accredited, four-year college or university and considered by Wichita State and the Department of Administration of Justice to be of upper-division academic quality.

To satisfy the requirements for the BS in administration of justice, students must satisfy the college foreign language requirement.

Students majoring in administration of justice are also directed to select a minimum of 24 hours of supportive course work in one or more of the following areas: sociology, social work, psychology, minority studies, American studies, political science, anthropology, chemistry, biological sciences, geology or physics. With their advisor's assistance and approval, students may select courses from these areas that best relate to their particular administration of justice specialty area. (Note: These courses may be chosen to satisfy certain sections of the Wichita State University general education requirements as well as the administration of justice requirements.)

Certificate of Emphasis in Cross-Cultural Communications for Administration of Justice. The emphasis in cross-cultural communications in administration of justice is designed to provide learning experiences that will prepare practitioners to bring about favorable interaction between criminal justice agencies and the minority groups they serve. This emphasis area attempts to prepare students to develop empathetic responsiveness, combined with humanistic insights and to develop and maintain mutually dependent helping and working relationships between criminal justice and a variety of minority groups.

All students majoring in administration of justice (including all fields of specialization) may opt to obtain the Certificate of Emphasis in Cross-Cultural Communications for Administration of Justice in addition to the administration of justice major. Those students seeking this certificate must satisfactorily complete Min. Stud. 210Q and one of the following: Min. Stud. 331, 332, 333 or 334. Also, students must take 12 additional hours in minority studies course work, nine of which must be in upper-division courses.

Minor. The minor consists of at least 18 hours of administration of justice courses, including AJ 100Q and four upper-division courses.

Associate of Science

The Associate of Science degree in administration of justice is awarded to students who complete the 64-hour, two-year program. Although it is being phased out, students presently enrolled will be accommodated. The requirements for the degree are summarized below:

I. General Education Course Requirements (30 hours)

   Eng. 101, College English I, 3 hours
   Eng. 102, College English II, 3 hours
   Speech 111, Basic Public Speaking, or Speech 112, Basic Inter-
   personal Communications, 3 hours
   Humanities, 6-9 hours
   Social sciences, 6-9 hours
   Science or mathematics (including one laboratory course), 6-9 hours

II. Professional Curriculum (12 hours)

   AJ 100Q, Introduction to Administration of Justice, 3 hours
   AJ 143, Police in the Community, 3 hours
   AJ 201, Agency Administration I, 3 hours
   AJ 220Q, Criminal Law, 3 hours

III. Elective Hours (22 hours)

Lower-Division Courses

AJ 100Q or departmental consent is prerequisite for all administration of justice courses unless otherwise noted.

100Q. Introduction to the Administration of Justice. (3). An introduction to the philosophy and history of law enforcement, identifying multiple facets of the administration of justice system, including the police, the courts, correctional agencies and the offender. The administration of justice role is studied as it relates to the individual and to society. Through visitation and contact with administration of justice agencies, the student is acquainted with the responsibilities and problems of personal development for an administration of justice career. A 29 100Q 0 2105

143. Police in the Community. (3). Rights and duties of citizen; Constitutional provisions affecting law enforcement officers, emphasizing due process, search and seizure and informant identity are explored. Interview and interrogation techniques and procedures used in all phases of contact within the community structure are examined. A 29 143 0 2105

201. Agency Administration I. (3). A survey of management models, administrative techniques and patterns of organizational structure characteristic of administration of justice agencies. A 29 201 0 2105

220Q. Criminal Law. (3). History, scope and nature of law, parties to crime, classification of offenses; ac and intent; capacity to commit crime and defenses. Elements of major criminal statutes and an overview of criminal processes and rules of evidence are examined. A 29 220Q 0 2105

Upper-Division Courses

303Q. Contemporary Issues in Criminal Justice. (3). An analysis of criminal justice in a changing society. Topics explored that are most relevant to contemporary issues and trends in law enforcement, courts and corrections. A 29 303Q 9 2105

320. Criminal Procedure. (3). Criminal procedure in the administration of justice system, including rights of accused, initiation of prosecution, rules of arrest, search and seizure, and the exclusionary rule. A 29 320 0 2105

340. Investigative Technology. (3). Departmental fee. An analysis of technology and systems utilized in both criminal and traffic investigation using crime scene investigating procedures, various methods of personal identification, investigatory photography and traffic accident and safety investigative sys-
344. Criminalistics and Scientific Crime Detection. (3). Departmental fee. Scientific aids available to law enforcement officers, including forensic chemistry, physics and microscopic procedures from crime scenes through laboratory analysis. Course presentation are studied. A 29 344 1 2105

345. Investigative Photography. (3). Departmental fee. Basic photography theory and practice as applied to criminal investigation and criminalistics. Students take, develop, prepare and document pictures for evidential purposes. Prerequisite: AJ 343 or instructor's consent. A 29 345 1 2105

349. Hostage and Crisis Negotiations. (3). (3). Emphasis is on the study of negotiation management and techniques appropriate to the handling of hostage negotiations, barricaded subject negotiations and other exigent situations such as suicide and violent domestic disturbances. The use and training of special tactical and negotiation teams are examined. Prerequisites: AJ 100 and Soc 211 or instructor's consent. A 29 349 2 2105

370. Analysis of Security Administration. (3). A course of study for interested students and practitioners of security management. The history and philosophy of security, personnel security measures and security goatees of business, security firms, military services and government bureaus are discussed. Open to all interested students in any major field of study. A 29 370 0 2105

3820. Women in the Administration of Justice. (3). Cross-listed as WS 382. A course designed to examine the role of women within the criminal justice system. It is approached from two perspectives: (1) those women employed by the criminal justice system, and (2) those women who are incarcerated by the criminal justice system. Emphasis is placed on those facets unique to women in the history of law enforcement and corrections. A 29 3820 Q 0 2105

403. Senior Seminar. (3). An intensive study of the theory and operation of the total criminal justice system. Required of all administration of justice majors. Prerequisite: senior standing and departmental consent. A 29 403 Q 0 2105

421. Individual Directed Study. (1-3). Study in a specialized area of the administration of justice, focusing upon the research project on the student's research project. Repeatable for credit not to exceed a total of six hours. Prerequisites: 15 hours in the administration of justice core and departmental consent. A 29 421 3 2105

422. Internship. (3). Supervised field placement with a governmental or private law enforcement, court, correction, juvenile justice, forensic science or security agency. The internship is designed to provide a learning experience in which the student gains an understanding and applies knowledge and theory derived from the administration of justice curriculum. Interns are required to work 96 hours for three hours credit, there is a maximum of six hours credit for the internship. A portion of the administration of justice, junior or senior standing, consent of the criminal justice agency and internship coordinator's consent. A 29 422 3 2105

445. Special Topics. (3-6). Group project and / or inquiry through student supervision. Under faculty supervision of administration of justice topics, including law enforcement, corrections and the judicial process. Repeated for credit not to exceed a total of six hours. A 29 445 3 2105

481. Cooperative Education. (1-6). This course provides the student with a field placement which integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by the departmental coordinator. Prerequisites: administration of justice major, 15 hours of administration of justice courses, junior or senior standing and consent of the criminal justice agency. Offered Cr/NcR only. A 29 481 3 2105

501. Agency Administration II. (3) An intensive examination of a variety of emerging administrative and management innovative concepts and implications to the determination and implementation of management philosophy for the administration of justice agency and its individual practitioners are explored. Prerequisite: AJ 201 or departmental consent. A 29 501 0 2105

510. Computers in Administration of Justice. (3). A survey of computer use and potential in police, courts and correctional agencies. The ethical and legal problems confronting the use of computerized justice system occasioned by the use of computers as information-gathering and storage devices. Study also includes the advantages of using computers in basic and applied research in the administration of justice. A 29 510 1 2105

512. Research Methods. (3). An introduction to statistical methods, including experimental design, the analysis of statistical processes and related procedures. A study is made of the general methodology of research as it pertains to the administration of justice. A 29 512 0 2105

520. Criminal Evidence. (3). Concepts of criminal evidence rules as they pertain to kinds and degrees of evidence—procedure for admissibility of evidence, witness and privileged communications, the hearsay rule and its exceptions; and judicial notice, burdens of proof and presumptions. Emphasis is placed on the role of the jury's role in both offense and victim of crime. A 29 520 0 2105

521. Law and the Administration of Justice Process. (3). Examination of recent judicial interpretations affecting legal process, rules of evidence, substantive law, administrative law. An in-depth study of statutory provisions is made with emphasis on the conflict of laws and legal trends affecting administration of justice personnel. A 29 521 0 2105

533. Juvenile Justice. (3). An analysis of decision-making processes in juvenile justice, the content of juvenile law and Supreme Court decisions affecting juvenile justice, as well as administrative and policy issues which influence the administration of juvenile justice. A 29 533 0 2105

560. Community Prevention Programs. (3). An analysis of typologies, philosophies and operations of existing and projected community-based crime prevention programs. Emphasis is also placed on a variety of governmental and nongovernmental community support and action programs, which, although not traditionally identified as such, appreciably contribute to the administration of justice process. Program categories to be analyzed include citizen involvement (voluntary and civic advisory groups) and educational, religious and family welfare and youth services. A 29 560 0 2105

570. Security Staff Supervision. (3). Assessment of quality of human beings in different systems under different headings. Analysis of actual cases and appraisal of the concept of loyalty, security and suitability of personnel in governmental or private agencies. Prerequisite: AJ 370 or departmental consent. A 29 570 0 2105

572. Security Technology. (3). Physical security hazards, threats, sabotage, theft and pilferage problems as they affect governmental and private agencies, as well as actions taken by security officers to counter them. Emphasis is on research in the development of security technology, personnel, hardware and software. Prerequisite: AJ 370 or instructor's consent. A 29 572 0 2105

600. Forensic Anthropology. (3). Cross-listed as Anthro 600. This course encompasses the area of criminal investigation involving the identification of human beings based on hair, fingerprint, dentition and skeletal system. It covers procedures of collection, preservation, marking, transportation, referral, laboratory analysis, classification and identification with an emphasis in anthropological interpretation. A 29 600 Q 0 2202

606. Conflict Resolution in the Administration of Justice. (3). An analysis of community and individual reaction to agency policy and services. Emphasis is placed on the handling of agency's responsibilities in the prevention of aggression between caregivers and victims of crime and between other groups and individuals in conflict. A 29 606 Q 2 2105

610Q. The Victim and the Administration of Justice. (3). An examination of the relationship of criminal victims to the criminal justice system. Consideration is given to the role of the victim in crime occurrences, as well as theoretical developments in the field. A 29 610Q Q 0 2105

633. Planning in the Administration of Justice. (3). Analysis of planning techniques related to the procedures, personnel, physical and specialized equipment, budget and extra-agency activities. Prerequisite: AJ 201 or departmental consent. A 29 633 0 2105

636. Public and Community Relations. (3). Analysis of techniques utilized by administration of justice agencies in both public and community relations and programs that are designed to optimize the agency's communication capability. Special emphasis is placed on the unique characteristics of both public and community relations. A 29 636 0 2105

639. Techniques of Agency Staff Supervision. (3). Analysis of the personal supervi-
tion, training and evaluation techniques utilized by administration of justice agencies with emphasis on techniques that optimize the agency-practitioner work relationship. Prerequisite: AJ 201. A 29 639 0 2105

641. Forensic Psychiatry. (3). Analysis of the role of psychiatry in the administration of justice process. Emphasis is placed on introducing the student to concepts and procedures of forensic psychiatry. A 29 641 0 2105

643. Forensic Science. (3). Analysis of the medical role of prevention, detection and treatment as related to the administration of justice. Emphasis is placed on medical specialty areas, such as pathology and psychiatry, which have significant effect on segments of the administration of justice process. A 29 643 1 2105

646. Seminar on Investigation Theory and Practice. (3). Analysis and discussion of investigative theory and practice with special emphasis on technological innovation and current medical perspective. Prerequisites: AJ 343 and 344. A 29 646 0 2105

653. Community-Based Corrections. (3). Analysis of the techniques of probation, parole, after-care supervision and related services. Special emphasis is placed on community-based corrections techniques as they relate to other segments of the administration of justice. A 29 653 0 2105

656. Institutional Corrections Techniques. (3). An analysis of the techniques of institutional correctional practice, including diagnostic centers, halfway houses and other related treatment models. Special emphasis is placed on institutional corrections techniques as they relate to other segments of the administration of justice system. A 29 656 0 2105

660. Techniques of Prevention Program Development. (3). An analysis of the techniques utilized to organize and develop traditional and projected crime prevention and related programs in non-government sponsored programs. Special emphasis is placed on the application of institutional corrections techniques as they relate to other segments of the administration of justice process. Prerequisite: AJ 560 or departmental consent. A 29 660 0 2105

670. Seminar—Security, Theory and Practice. (3). An advanced seminar that emphasizes the interrelationships between theories underlying contemporary security practice. Special emphasis is placed on the application of instructor’s theory that supports innovation. Prerequisite: AJ 370 or departmental consent. A 29 670 0 2105

680Q. Administration of Justice: Transnational and Comparative Perspectives. (3). Primarily designed to acquaint students with structural and functional aspects of law enforcement agencies, court systems, correctional facilities, juvenile treatment and crime prevention strategies employed by different societies throughout the world. The role of the United Nations Treatment of Offenders and Crime Prevention is incorporated. A 29 680Q 0 2105

750. Workshops in Administration of Justice. (3). Prerequisite: AJ 100 or instructor’s consent. A 29 750 2 2105

781. Cooperative Education. (1-6). This course provides the student with a paid field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Students will work directly with a member in the formulation and completion of an academic project related to the field experience. The cooperative education experience must be an integral part of the student’s academic program. Individualized programs must be formulated in consultation with and approved by the departmental cooperative education coordinator. Open only to AJ graduate students. Offered Credit/No Credit. A 29 781 3 2105

Courses for Graduate Students Only

800. General Seminar on the Administration of Justice. (3). An overview and integration of major propositions, concepts, assumptions, history and methods from the various fields of administration of justice, including law enforcement, the courts, corrections and legislative control. The possible contribution of other community agencies is also explored. A 29 800 0 2105

801. Judicial Process and the Administration of Justice. (3). The review and discussion of local, state and federal criminal statutes and court procedures related to the administration of justice process. A 29 801 0 2105

802. Advanced Community-Based Corrections. (3). An in-depth analysis of the methods of community-based corrections, including parole, probation and after-care supervision. Particular attention is given to the relationship that community-based corrections has to the larger administration of justice system. A 29 802 0 2105

803. Advanced Institutional Corrections Methods. (3). A course analyzing basic methods utilized in the organization and accomplishment of objectives in correctional institutions. Along with the more traditional correctional facilities, the seminar reviews methods utilized in diagnostic centers, halfway houses and other treatment models. A 29 803 0 2105


805. Seminar on Principles of Evidence and Proof. (3). An in-depth examination of different types of legal proof that are presented at court trials. Included in the examination are the mediums of witnesses, records, documents, concrete objects, etc. A 29 805 0 2105

806. Seminar on Agency Administration. (3). A comparative survey and analysis of administrative philosophy, problems, procedures, organizations and functions of effective agencies. Administrative skills related to operations and personnel both within and outside the agency are considered. A 29 806 0 2105

811. Advanced Research Methods in Administration of Justice. (3). The advanced study of selection and formulation of research problems; the study of design in the research project, including hypotheses and scale construction and sampling procedures; and a review of methods and the nature of the research process, analysis and interpretation. Prerequisite: AJ 512 or equivalent. A 29 811 0 2105

812. Seminar on the Application of Criminalological Theory. (3). An in-depth analysis of the major theories of criminalology and of their importance to the administration of justice process. Emphasis is placed on the integration of a consistent, valid and individual framework of reference being developed by the student. A 29 812 9 2105

814. Seminar on Critical Issues in Criminal Justice. (3). Emergent phenomena in the criminal justice system of criminal justice are investigated to demonstrate the pertinence of theory to practice. Examples of issues include role conflicts in law enforcement and corrections, police professionalism, its place and function; the offender as a client for services; and corrections as a setting for research. A 29 814 9 2105

821. Seminar in Criminalistics. (3). Departmental fee. Review and discussion concerning techniques and ethics involved in the application of the physical sciences, including chemistry, biological sciences, mathematics and physical anthropology, to the investigation of crime. A 29 821 9 2105

822. Advanced Computer Usage in the Administration of Justice. (3). An advanced seminar concerning the methods, purposes and problems encountered in the establishment and utilization of automated information and computerized data-processing systems. Special attention is given to the implications that computers have for police-public relationships. A 29 822 9 2105

823. Forensic Science Seminar. (3). The extensive examination of the wide field of issues in which medicine comes into relation with the law. It involves certification of the dead, the study of violent and unnatural deaths, scientific criminal investigation, drug detection, the duty of the medical examiner, procedures in courts of law and considerations of medical ethics or proper standards. A 29 823 9 2105

824. Seminar on Administration of Justice Education and Training. (3). Analysis of the specialized methods and techniques and technological innovations utilized in the administration of justice educational and training process. A 29 824 9 2105

827. Seminar on Environmental Protection. (3). An in-depth analysis of emerging federal, state and local legislation; judicial decisions; and administrative policy as related to environmental protection. The roles of the administration of justice agency and a variety of governmental and nongovernmental protective agencies are explored as related to prevention, investigation and enforcement processes of environmental protection. Special emphasis is placed on the contribution administration of justice agencies can make toward development and implementation of effective environmental protection education and assistance programs. A 29 827 9 2105

833. Seminar on Agency-Community Relations. (3). An in-depth analysis of the role of agency administrators in community relations and related public officials in existing community programs. Special emphasis is placed on a multi-disciplinary methodology for developing new and redefining existing lines of communications between the agency and its community. A 29 832 9 2105

833. Seminar on Youth and the Administration of Justice. (3). An analysis of the criminal justice process as related to the
American Studies

American studies is an interdisciplinary approach to American culture which seeks to see the national experience as a whole rather than from a single perspective. The program involves students in an examination of American culture and society—its character and values, its intellect and behavior. It studies its institutions, geographical and physical regions, myths and stereotypes, everyday life, literature, films, music, art, mass media and material culture. A collaboration of scholars working in different academic disciplines, American studies is not so much a subject as an outlook—a broad, open-minded perspective upon the nation's past, present and future. The American experience can be best understood when students pursue the American character across academic disciplines and gather insights from each of them. The result will be an awareness of the multiplicity of forces that molds American culture. "Americanists" deal with the complex and often contradictory patterns of civilization and are thus prepared for a variety of careers in the arts, business, education and government, as well as for graduate school education.

The student should plan an individualized program of study with a departmental advisor after completing nine hours of course work in American studies. A senior paper in AS 699 is required. While suggested for all students, AS 210G does not count toward the major. American studies students are encouraged to fulfill University general studies requirements from courses which include the following: Econ. 101G, Eng. 232G, HAE 231G and Hist. 330G.

Major. The American studies major consists of 36 hours distributed as follows:

I. 24 hours of American studies courses from these areas—AS 100, (3 hours from AS 100), AS 210G, 211G, 213G or 275Q; 3 hours from AS 315, 350Q, 400G or 450G; 3 hours from AS 499A, 499B, 499C or 499D; 3 hours from AS 512 and 9 hours from AS 601, 602, 698 or 699
II. 6 hours in American studies electives from any area
III. 6 hours from at least 2 of the following 3 groups:

- Humanities, Eng. 252Q, 362, 364, 365, 501, 502; Rel. 240; WS 150D, 150E, 530; Hist. 131Q, 132Q, 517, 518, 521, 522, 531, 533, 534, 535Q, 537, 539
- Social Sciences, Pol. Sci. 121Q, 315, 316Q, 318, 319, 3580; Anthro. 511, 540, 538, Min. Stud. 100Q, 240Q, 260; Soc. 220Q, 315Q, 316, 338Q
- Others, Art Hist. 524, 526, Econ. 201Q; IS 234; Geog. 520; Music 162; Phys. Educ. 112, 302.

Minor. A minor in Fairmount College of Liberal Arts and Sciences consists of 15 hours, including Amer. Stud. 100, plus at least six other upper-division hours.

Lower-Division Courses

100. Introduction to Development of American studies. (3). The course examines the development of American studies as a discipline, focusing on the major American studies research approaches in such areas as the humanities, social sciences and linguistics. From their perspective as participants in American culture, students are invited to apply the techniques of interdisciplinary research to their own experience. Research approaches studied include quantitative analysis, semiotics, structuralism, literary formula, and so forth. Films, popular literature, ethnic and sex roles, cultural myths, television, fashion, sports and advertising are among the topics discussed. A 11 100 0313

150. Workshop in American Studies. (1-3). A course designed to provide specialized instruction using a variable format in an American studies relevant subject. A 11 150 0213

160Q. Introduction to Entrepreneurship. (3). An introductory course that is designed not only to familiarize the student with the world of small business but also to analyze the personal strengths and weaknesses as they relate to launching an entrepreneurial career. Considerable attention will be given to the elementary concepts of planning, financing, and managing a new business. A 11 160Q 0213

201G. The American Hero. (3). Defines historical, cultural, and environmental conditions that fostered the rise of many genres of American folk heroes. Representative heroes from colonial times to the present are examined to see how they symbolize the American character. A 11 201G 0313

210Q. Crime in America. (3). A study of crime in America from colonial times to the present. Topics explored are the evolution of crime, crime as depicted in literature, crime as depicted in popular entertainment and popular attitudes toward crime and criminals. A 11 210Q 0313


275Q. Studies in Popular Literature. (3). A course devoted to study of various forms of popular literature (e.g., revolutionary literature, science fiction, western fiction, detective novel) with emphasis both on the literary merits of this work and the way it reflects popular tastes and values. Repeatable for credit with change of content. A 11 275Q 0313

281. Cooperative Education in American Studies. (1) A study of American studies students to participate in the Cooperative Education Program. Offered Cr/NCr only. A 11 281 0313

Upper-Division Courses

315. Special Topics in American Studies. (1-3). An analysis of special topics in American studies. Repeatable for credit. A 11 315 0313

342. American Folklore. (3) Cross-listed as Eng. 342. A survey of the types and functions of unwritten traditional materials in the United States, including beliefs, tales, jokes, folk music, customs and crafts with some ethnic varieties. The unwritten materials that form the uniqueness of American culture. A 11 342 0313

350Q. American Sports Culture. (3). American sports reflect and influence our values, cultural institutions and society. The relationship between media and sports, the "business" of intercollegiate athletics, the evolution of minority group's and women's participation in sports and other topical concerns will enable students to understand the impact that sports has upon our American culture. A 11 350Q 0313

400. Success in America. (3). The examination of success in America as it has evolved through three centuries of redefinition and change. Films, popular literature, heroes and heroines, sports, business and leisure are analyzed. The reasons and causes of success, happiness (money, fame, happiness and others) associated with success will be examined in a variety of literary, biographical, historical sources as well as cinematic sources. A 11 400 0313

450. The 1950s in America. (3). The basic objective of this course is to promote greater understanding of the diverse developments affecting the experience of Americans. A 11 450 0313

481. Cooperative Education in American Studies. (1-3). The course will permit American studies students to participate in the Cooperative Education Program. Offered Cr/NCr only. A 11 481 0313

499A. American Film Culture. (3). Using films as sources and resources of attitudes, values and beliefs, the course studies a variety of these "visual texts" in chronological order to examine such topics as attitudes towards blacks and women at various periods, crime and prohibition, patriotism during WWII and WWII, the Cold War mentality and the rebellious youth culture of the Vietnam era. The changes in American mentality during the distribution of these films is evaluated. A 11 499A 0313

499B. Women in American Film. (3). Cross-listed as WS 499B. The changing role
A description of various concepts concerning the realm of the supernatural as held by primitive people. This course relates such religious and magical beliefs—and the resultant practices—to the larger patterns of cultural context. A 28 127 0 2202

150. Workshop in Anthropology. (1-3). A course designed to provide specialized instruction using a variable format in an anthropologically relevant subject. Repeatable for credit. A 28 150 0 2202

281. Cooperative Education in Anthropology. (1-4). This course is designed to provide the student with practical experience that will complement the student's academic program. Consultation with and approval by an appropriate faculty sponsor is necessary. Offered Cr/Ncr only. A 28 281 0 2202

Upper-Division Courses

303. Peoples and Cultures of the World. (3). A survey of the cultural configurations of nonliterate peoples of Northern Africa, Asia, Asia, Oceania, and Africa. Prerequisite: Anthro. 102Q or 124Q. A 28 303 0 2202

305Q. World Archaeology. (3). The course introduces the basic concepts, methods, and techniques of scientific archaeology. These are applied to a series of problems of increasing complexity: the emergence of human culture, the development of domestic plants and animals, and the evolution of cities and complex societies. A 28 305Q 0 2202

307. Peoples of Africa. (3). A description and analysis of the culture areas of Africa south of the Sahara Desert from ethnographic and ethnographic sources. A 28 307 0 2202

312. Peoples of Asia. (3). Study of tribal cultures and civilizations of Asia in terms of major culture areas, racial varieties and linguistic patterns. A 28 312 0 2202

313. Archaeology of East Asia. (3). A broad survey of archaeology throughout eastern Asia from the prehistoric to modern periods. A course designed to provide specialized instruction using a variable format in a subject relevant to American studies. Repeatabile for a total of 30 hours. Including Anthro. 100G, 126G, 501, 506Q, 513, 506Q. A 28 313 0 2202

318. Psychological Anthropology. (3). The relationship of individual psychology (personality, emotion, cognition), both normal and abnormal, to group membership and cultural context. A 28 318 0 2202

323. Primitive Folklore. (3). Survey of the oral literature of Africa, the Americas and the Pacific. The role of myths, tales, riddles and proverbs in reflecting a people's value and world view is explored. A 28 323 0 2202

328. Medical Anthropology. (3). Medical anthropology studies the health beliefs and behaviors of various human societies, especially in, but not limited to, those outside the western, scientific tradition. Attitudes toward the etiology of disease, the techniques of healing, the use of curative drugs and other agents, the roles of healers and therapists and the attitudes of the community toward the ill are among the areas covered. A 28 328 0 2202

335. Archaeology of North America. (3). A survey of the prehistoric cultures of North
511. The Indians of North America. (3). A survey of tribal societies and native confederations north of Mexico from the protohistoric through the prehistoric periods. Prerequisite: Anthro. 102Q or 124Q. A 28 511 0 2212

514. Anthropological Perspectives in Geology. (3). Cross-listed as Geor. 514. An anthropological analysis of the latter stages of the life cycle with historical and cross-cultural perspectives. Prerequisite: Anthro. 100Q or 124Q or Soc. 1110. A 28 514 0 2202

515Q. Chinese People and Culture. (3). An introduction to the peoples of China and aspects of their culture, economy, government, society, religion, and the arts. Historical attention will focus on many adjustments the Chinese have made during the twentieth century following political revolutions, industrialization, and expanding trade relations. A 28 515Q 0 2202

516Q. Japan: People and Culture. (3). An introduction to the culture of Japan including its history and prehistory, aspects of traditional culture, and 20th century Japan, its economy, politics and social organization. A 28 516Q 0 2202

521. Performing Arts in Other Cultures. (3). The performing arts are highly developed in many cultures around the world in dance, music, song, and in the dramatic presentations of ceremony and pageantry. These are studied on film, tape and records and in live performances available locally. Prerequisite: Anthro. 102Q or 124Q or instructor's consent. A 28 521 0 2202

522Q. Art and Culture. (3). A survey of the visual and performing arts of nonwestern peoples with special attention to their relationships in the cultural setting. Prerequisite: Anthro. 102Q or 124Q. A 28 522Q 0 2202

526. Social Organization. (3). A survey of the varieties of social organization among nonindustrialized peoples throughout the world. This course deals with family systems, kinship, residence patterns and lineage, clan and tribal organizations. Prerequisite: six hours of anthropology. A 28 526 0 2202

538. Early Man in the New World. (3). A critical examination of facts and theories concerning early man in the New World, from the peopling of the continent to the beginning of the Archaic tradition, and of the role of cultural contacts between eastern Asia and North America. Prerequisite: Anthro. 124Q or 505Q. A 28 538 0 2203

540. The Indians of the United States: Conquest and Survival. (3). An anthropological inquiry into four centuries of cultural contact, conflict, resistance and resistance. Prerequisite: Anthro. 102Q or 124Q or instructor's consent. A 28 540 0 2212

542. Women in Other Cultures. (3). Cross-listed as WS 542. A course dealing with the place of women in primitive and other non-Western societies, in various aspects of culture: political, economic, social, religious, domestic, intellectual, psychological and aesthetic. Societies are compared and contrasted in order to see how different kinds of roles for women are related to different kinds of societies. A 28 542 0 2202

545. Economic Anthropology. (3). The study of methods of production, division of labor, organization of markets, concepts of money and property, and the analysis of trade systems. An emphasis is placed on kinship us as units of consumption and production. Prerequisite: six hours of anthropology. A 28 545 0 2202

555. Fossil Evidence for Human Evolution. (3). A detailed examination of man's evolutionary history as evidenced by fossil remains and a survey of various interpreta tive explanations of the fossil record. Prerequisite: Anthro. 124Q or 505Q or instructor's consent. A 28 555 0 2202

556. Human Variability. (3). A critical examination of the biological aspects of contemporary human variation, stressing human adaptations. Prerequisites: Anthro. 101Q or Biol. 2230 and 5063 or instructor's consent. A 28 556 0 2202

557. Human Osteology. (3). A course dealing with human skeletal and dental materials with applications to both physical anthropology and archaeology. Topics in lecture and extensive laboratory sessions include bone and tooth identification, maceration and analysis, and skeletal preservation and reconstruction. Individual projects are undertaken. Prerequisite: Anthro. 101Q or equivalent. A 28 557 0 2202


560. Forensic Anthropology. (3). Cross-listed as AJ 600. The course encompasses the area of criminal investigation involving biological evidence: blood, hair, fingerprint, dentition and skeletal system. It covers procedures of collection, preservation, marking, transportation, laboratory, laboratory interpretation, and identification with an emphasis on anthropological interpretation. A 28 600 0 2202

562. Archaeological Laboratory Analysis. (1-3). Students analyze archaeological materials, including ceramic, lithic, faunal and vegetal remains according to accepted methodologies. Field trips are required. Students learn to apply standard methods of identification and modes of interpretation to the materials to produce an acceptable archaeological report. Prerequisites: Anthro. 502 and instructor's consent. A 28 602 1 2203

566. Museum Methods. (3). An introduction to museum techniques relating to the acquisition of collections and related procedures, such as accessioning, cataloging, documentation, presentation and storage. Emphasis is on current trends in museological philosophy concerning purpose, function and relevance of museums, as well as career opportunities. Prerequisite: instructor's consent. A 28 606 0 2202

567. Museum Exhibition. (3). Contemporary philosophy of exhibition design and the application of recent concepts to the planning and installation of an exhibit. Prerequisite: Anthro. 506 or instructor's consent. A 28 607 5 2202

511. Southwestern Archaeology. (3). A comprehensive survey of the prehistoric his-
Emphasis—Students

A major in biological sciences leading to the Bachelor of Arts (BA) requires a minimum of 30 semester hours of biological sciences course work. A major in biological sciences leading to the Bachelor of Sciences (BS) requires a minimum of 40 semester hours of biological sciences course work. The candidates for the major under either degree must: (1) complete the major core courses, consisting of Biol. 203Q, 204 and 584; (2) select either a microbiology or an organismal biology and ecology emphasis and fulfill the requirements for the chosen emphasis; and (3) maintain an overall grade point average of 2.000 in all biological sciences course work. Students pursuing a BA may take 40 semester hours of biological sciences course work for credit, while those pursuing a BS may take 50 semester hours of biological sciences course work for credit.

Microbiology Emphasis—Students selecting this emphasis must complete the following, in addition to the major core courses: (1) Biol. 330; (2) a minimum of 16 semester hours for the BS or 11 semester hours for the BA selected from among the courses listed under the division of microbiology below; and (3) for the BS (but not for the BA), a minimum of seven semester hours of elective biological sciences courses, consisting of BioI. 502, 520, 524, 527, 531, and either BioI. 560, 575 or 578; and (4) for the BS (but not for the BA), a minimum of seven semester hours of elective biological sciences courses selected from those listed under either division and/or from interdivisional courses. In addition, all students must complete the following chemistry course work or its equiva-

750. Workshop. (1-4). Short-term courses with special focus on anthropological problems. Prerequisite: instructor's consent. A 28 750 2 2202

Courses for Graduate Students Only

801. Seminar in Archaeology. (3). Comprehensive analysis of archaeological data with emphasis on theoretical problems of interpretation and reconstruction. Repeatable up to six hours. Prerequisite: Anthro. 501 or departmental consent. A 28 801 9 2203

802. Methods in Anthropology. (2-3). Designed to develop abilities in the concept and investigation of anthropological problems and interview and observation techniques, as well as more specialized methods such as photography, mapping and tape recording. Repeatable up to six hours. Prerequisite: departmental consent. A 28 802 9 2202

820. Seminar in Physical Anthropology. (3). Analysis of fossil, skeletal and modern biological differences among people. Emphasis is placed on methods and techniques of analysis with a consideration of current interpretive models. Prerequisite: Anthro. 556 or 557 or departmental consent. A 28 820 9 2202

837. Seminar in Cultural Anthropology. (3). Intensive study of advanced theoretical questions in cultural anthropology. Repeatable up to six hours. Prerequisite: five hours of anthropology. A 28 837 9 2202

847. Colloquium in Anthropology. (1-2). SU/G grade only. Repeatable for a maximum of three hours. To provide graduate students with seminar-style experience in recent research in all of the subfields of anthropology. Course also allows those students preparing their first papers for presentation at professional conferences to present them before a critical but friendly audience. Students presenting colloquium papers receive two credits. Prerequisite: graduate standing in anthropology. A 28 847 9 2202

848. Recent Developments in Anthropology. (3). An in-depth coverage of selected topics in physical anthropology, including population dynamics, primateology, growth and development and current research methods. Prerequisite: Anthro. 101Q or instructor's consent. A 28 650 0 2202

651. Language and Culture. (3). Cross-listed as Anthro. 651. An introduction to historical and descriptive linguistics. The course deals with the ethnography of communication, lexicostatistics and linguistic determination. Prerequisite: six hours of anthropology. A 28 648 9 2202

575. Anthropology and the Sciences. (3). An introduction to historical and descriptive linguistics. The course deals with the ethnography of communication, lexicostatistics and linguistic determination. Prerequisite: six hours of anthropology. A 28 648 9 2202

567. English Syntax. (3). Cross-listed as Eng. 667 and Ling. 667. Examination of aspects of the structure of English and their relation to linguistic theory. Prerequisite: Eng. 315 or Ling. 577 or Anthro. 577 or instructor's consent. A 28 667 0 1505

590. Field Methods in Anthropology. (3-6). A maximum of six hours can be counted as anthropology hours toward either degree. A course that instructs the student in archaeological and ethnological field methods through actual participation in a field research program. The project depends upon the specific Summer Session and varies from year to year. Prerequisite: instructor's consent. A 28 690 2 2202

749. Educational Anthropology. (3). A course dealing with the basic concepts of anthropology and their application to social sciences units in the elementary and secondary schools. The nature of subcultures in American society and the problems they pose for the classroom teacher. A course for education majors and graduate students. Cannot be used to meet requirements of the General Education Program for anthropology. A 28 749 0 2202

Biological Sciences

The biological sciences department offers a broad and flexible curriculum leading to the Bachelor of Arts (BA) or the Bachelor of Sciences (BS) degrees with a major in biological sciences and an emphasis either in microbiology or organismal biology and ecology. The department also participates in a field major which leads to a BS degree in biochemistry.
students preparing for the secondary teaching profession and majoring in biological sciences should complete the requirements of the organismal biology and ecology emphasis in order to qualify for the state teaching certificate.

Minor. A minor in biological sciences requires at least one of 20 semester hours. Candidates for the minor must: (1) complete the major's core courses (Biol. 203Q, 204 and 584); (2) complete a minimum of six additional semester hours of elective courses chosen from among the upper-division courses available for major credit; (3) complete at least one lecture/laboratory or lecture/field course among those taken to satisfy the elective course requirement, and (4) maintain an overall grade point average of 2.00 in all biological sciences core work.

Biochemistry Field Major. The departments of biological sciences and chemistry participate jointly in this program. Required courses are: Biol. 203Q, 204, 500 and 584; Chem. 111Q, 112Q, 523, 531, 532, 662, 663 and 664; Phys. 213Q and 214Q, and Math. 112 or 111 and 123. Also required are Biol. 668 and 669 (two enrollments) which are cross-listed in the chemistry department and 21 elective hours chosen from among those approved for the biochemistry field major (see academic advisor or departmental offices for approved courses).

Nonmajor Courses. The Department of Biological Sciences offers courses designed primarily to meet the needs of students in other departments. These are listed below as "Nonmajor Courses." These courses, or their equivalents at other institutions, cannot be used to satisfy the biological sciences course work requirements for the major.

Nonmajor Courses

(May not be used to satisfy the requirements for the major)

Lower-Division Courses

105G. The Human Organism. (4). 3R; 2L. (Day and evening sections offered fall and spring semesters; day section offered eight-week Summer Session.) A course designed to introduce the nonscience major to certain biological principles as they relate to the human organism, to provide biological information and understanding on subjects which are relevant to the student's own well-being and role as a world citizen and to increase awareness of the human place in the biologic sphere. The course is to be implemented and reinforced with a laboratory experience which is appropriate for the non-science major and the theme of the course. Credit earned in this course may not be applied toward the requirements for a major or minor in biological sciences and credit is not given for both Biol. 102G (no longer offered) and Biol. 105G. A prerequisite 100G (no longer offered) should enroll in this course. A 12 105G 1 0401

1200. Introduction to Microbiology. (4). 3R; 2L. (Day sections offered fall and spring semesters and eight-week Summer Session; evening section offered spring semester.) Fundamentals of microbiology with emphasis on microorganisms important in sanitation and disease. A 12 1200 1 0411

225. Human Anatomy. (3). 2R; 2L. (Day sections offered fall and spring semesters; evening section offered spring semester.) Prerequisite: 105G. A 12 225 1 0412

226. Elementary Human Physiology. (3). 3R. (Day sections offered fall and spring semester and eight-week Summer Session; evening section offered spring semester.) Basic human physiology. Enrollment in Biol. 227 (offered on irregular basis) permitted. A 12 226 1 0410

227. Elementary Human Physiology Laboratory. (1). 3L. (Day sections offered fall and spring semester; evening section offered spring semester.) Prerequisite: 226. A 12 227 1 0410

Upper-Division Courses

310. The Biology of Human Reproduction and Development. (Offered on a regular basis as staffing permits.) The major goal of this course is to present basic biological information from the fields of anatomy, embryology, physiology and endocrinology as it relates to human reproduction. Each topic is presented initially at an introductory level and developed subsequently to include the results of recent findings in the field. Prerequisite: 203Q (day section or evening section). A 12 310 1 0410

3700. Ecology and Man. (3). (Day section offered fall semester in even-numbered years and spring semester; evening section offered fall semester in odd-numbered years.) The major goals of this course is to provide information which will allow the student to appreciate the complex interaction relationship among the human population, natural resource uses practices and the environment. Topics include: (1) the development and maturation of the reproductive tract; (2) reproductive endocrinology; (3) the anatomy and physiology of the male and female reproductive tracts; (4) the biology of fertilization, embryonic development, pregnancy and lactation; and (5) the alteration of the reproductive potential. Prerequisite: Biol. 102G (no longer offered), 105G, 203Q or 225. A 12 3700 1 0410

3720. Advanced Human Physiology. (4). (Offered on an irregular basis as staffing permits.) The major goals of this course is to present the basic physiological concepts of biology as they apply to the human organism. Prerequisite: 226. A 12 3720 1 0410

COURSES FOR GRADUATE/UNDERGRADUATE CREDIT

500G. Foundations of Human Heredity. (4). Introduction to the concepts and societal significances of developmental, transmission and population genetics of humans. Attention given to inborn errors of metabolism and development and the roles of genetic counseling and genetic engineering in their management. Course is intended for students majoring outside of the natural sciences and does not carry credit toward a biological sciences major or minor. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: junior standing. A 12 500G 1 0417

518G. Biology of Aging. (3). Cross-listed as Ger 101G (offered as evening only). An introduction to the phenomenon of aging, including a survey of age-related processes and mechanisms of senescence with emphasis on human. Student may receive graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: a basic course in biological sciences that satisfies general education requirements. A 12 518G 1 0410

INTERDIVISIONAL COURSES

Lower-Division Courses

150. Biology Workshop. (1-3). A 12 150 2 0401

203Q. Introduction to Organismal Biology. (4). 3R; 3L. (Day sections offered fall and spring semesters; evening section offered fall semester only.) An introduction to the fundamental concepts of biology as they apply to the molecular and cellular biological sciences. Topics include the advantages and problems of a multicellular habit, homeostatic systems involving nervous and hormonal control, nutrient procurement and circulation, use and cycling in plants, animals and communities; and sexual reproduction and inheritance in plants, animals and communities. Laboratory exercises evolve in the plant and animal kingdoms and the ecological relationships of plants and animals which come into play in the organism. A 12 203Q 1 0401

204. Introduction to Cellular Biology. (4). 3R; 3L. (Day sections offered fall and spring semesters; evening section offered spring semester only.) A continuation of Biol. 203Q in which the principles of cellular biology are presented in greater detail. Students majoring outside of the natural sciences who wish to repeat Biol. 114 (no longer offered) should enroll in this course. Prerequisite: concurrent enrollment in Chem. 111Q, 111Q or 123Q is recommended. A 12 204 1 0401

270. Applied Human Physiology. (4). 3R; 3L. (Offered fall semester only). Enrollment restricted to students in the physical therapy program and to physical education majors as space permits. Prerequisite: 102G. A 12 270 1 0410

Courses for Graduate/Undergraduate Credit

500G. Foundations of Human Heredity. (4). Introduction to the concepts and societal significances of developmental, transmission and population genetics of humans. Attention given to inborn errors of metabolism and development and the roles of genetic counseling and genetic engineering in their management. Course is intended for students majoring outside of the natural sciences and does not carry credit toward a biological sciences major or minor. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: junior standing. A 12 500G 1 0417

518G. Biology of Aging. (3). Cross-listed as Ger 101G (offered as evening only). An introduction to the phenomenon of aging, including a survey of age-related processes and mechanisms of senescence with emphasis on human. Student may receive graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: a basic course in biological sciences that satisfies general education requirements. A 12 518G 1 0410
Upper-Division Course

481. Cooperative Education. (2-4). This course is designed to complement and enhance the student's academic program by providing an opportunity to apply knowledge gained through coursework to job-related situations. For information contact the coordinator of undergraduate studies or the Cooperative Education program office. A maximum of four credit hours in BioI. 481 may be applied toward satisfying the credit hour requirements for a major in biological sciences. Prerequisite: applicant and Cooperative Education program office approval granted by the departmental affairs committee. Offered Cr/NCr only. A 12 481 2 0499

Courses for Graduate/Undergraduate Credit

500. Cell Physiology. (3). (Offered fall semester in even-numbered years.) This course is designed to bridge the gap between molecules and organisms by focusing on the function and the structure, as it relates to function, of the basic units of life, cells. Topics include a detailed treatment of individual cellular components and processes, the cytoskeleton, membrane transport, control of gene expression, cell-cell communication and a consideration of cellular evolution. In addition, some discussion is devoted to the contemporary techniques used to study cells. Students earning graduate credit will be expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 204 and Chem. 531. A 12 500 0 0417

573. Statistical Applications in Biology. (3). (Offered spring semester only.) A course designed to supplement Stat. 370 by providing experimental work and practical applications of statistical theory to biological data. The course includes computations on data derived from both the primary literature and independently designed research projects. The design of experiments to answer specific hypotheses, the treatment of non-normally distributed data sets and nonhomogeneous experimental test units and the use of packaged computer programs for certain statistical tests are emphasized. Access to calculators with at least two memory banks is strongly encouraged. Students earning graduate credit are expected to complete an additional statistical analysis assignment involving the use of the computing facilities. Prerequisites: Stat. 370. A 12 573 2 0419

584. Genetics. (4). The mechanisms of heredity and variation in plants and animals with a critical review of the concept of the gene. Students seeking graduate credit are expected to complete reading assignments in the technical literature resulting in several written reports or a comprehensive term paper chosen in consultation with the instructor. Prerequisite: Biol. 204. A 12 584 0 0422

666. Special Topics in Biochemistry. (3). (Offered spring semester in even-numbered years.) A course designed primarily for students who choose the biochemistry field major. A small number of current problems in biochemistry are discussed in depth. Reading published research papers in the field is required. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 204, Chem. 662 and 663. A 12 666 0 0414

669. Research In Biochemistry. (2). Cross-listed as Chem. 669. S/U grade only. A course designed primarily for students who choose the biochemistry field major. Participation in a biochemistry research project under the direction of a faculty member and a written report summarizing the results is required. May be repeated once for credit. Prerequisites: Biol. 416 (no longer offered) or 500, Chem. 662 or 663 and Chem. 664. A 12 669 4 0414

750. Biology Workshop. (1-3). A 12 750 2 0401

780. Molecular Genetics. (3). (Offered on irregular basis as demand warrants. Contact departmental affairs committee.) Studies of the physiochemical nature of genetic material and the mechanisms of genetic regulation of metabolism. Students earning graduate credit are expected to produce a term paper and deliver a class seminar based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 584 or instructor's consent. A 12 780 0 0422

789. Biology Seminar. (2). Reviews of current research in the biological sciences. Repeatable once for credit. A 12 789 9 0401

Courses for Graduate Students Only

890. Research. (2-5). S/U grade only. Students performing research on their thesis projects should enroll for an appropriate number of hours. An oral presentation of the research results must be presented to the student's thesis committee before a grade is assigned. A 12 890 4 0499

891. Thesis. (2). S/U grade only. Students must be enrolled in this course during the semester in which the thesis is defended. A 12 891 4 0499

Microbiology

Upper-Division Course

330. General Microbiology. (5). 3R; 6L. (Offered fall and spring semesters.) Introduction to the structure, function, systematics, ecology and population dynamics of microorganisms with emphasis on prokaryotes. Students wishing to repeat Biol. 550 (no longer offered) should enroll in this course. Prerequisites: Biol. 204 and Chem. 112Q. A 12 330 1 0411

Courses for Graduate/Undergraduate Credit

531. Food Microbiology. (4). 2R; 4L. (Offered on irregular basis as demand warrants. Contact department for information.) This course examines the role and significance of microorganisms in foods. Included are factors that affect microbial growth; detection of microbes and their products; food spoilage; food preservation by use of chemicals, radiation, high and low temperature, drying and fermentation; food-borne microbial infections and intoxications; spoilage, food sanitation, control and inspection. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. In addition, graduate student responses on essay examinations are read with greater expectations with respect to clarity, quantity and quality of composition presented. Prerequisite: Biol. 330 A 12 531 0 0411

552. Mycology. (4). 2R; 4L. (Offered spring semester in odd-numbered years.) The structure, development and reproduction of fungi with emphasis on the cytology and physiology of forms of scientific and economic importance. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 204. A 12 552 1 0411

590. Immunobiology. (3). (Offered fall semester only.) The nature of antigens and antibodies and their interactions. Cellular and humoral aspects of immunologic phenomena are presented. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 204 and Chem. 531. A 12 590 0 0416

591. Immunobiology Laboratory. (3). 6L. (Offered spring semester in odd-numbered years.) Methods of immunization and techniques for qualitative and quantitative determinations of antibody production and antigen-antibody reactions. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites or corequisites: Biol. 590, Chem. 531 or instructor's consent. A 12 591 1 0416

654. Pathogenic Microbiology. (4). 2R; 4L. (Offered spring semester only.) An introduction to the important pathogenic microorganisms and their role in human health and disease in man. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 590. A 12 654 1 0411

658. Microbial Physiology. (3). (Offered fall semester in odd-numbered years.) The physiology and metabolism of microorganisms. All students are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor, and those earning graduate credit are expected to make an oral presentation on this topic to the class. Prerequisites: Biol. 330 and Chem. 351. A 12 658 0 0411

669. Microbial Physiology Laboratory. (3). 6L. (Offered fall semester in odd-numbered years.) An introduction to the basic techniques involved in the study of microbial physiology. Students earning graduate credit are expected to complete an additional experiment in consultation with the instructor and present the results in written form using the format of a scientific journal chosen in consultation with the instructor. Prerequisites: Biol. 330 and Chem. 351. A 12 669 1 0411

660. Topics in Microbiology. (2-4). Lab fee. No more than a total of six credit hours earned from among Biol. 610, 640 and 660 may be applied toward major and graduation requirements. Students must complete a
Organismal Biology and Ecology

Upper-Division Courses

305. Introductory Plant Physiology, (5). (Offered fall semester each year.) An introduction to the physiological mechanisms which control higher plant functions. Topics covered include a review of basic physiological principles, gas exchange, water absorption, transport and loss; organic nutrition and the processes of photosynthesis and respiration, including variation mechanisms in plants adapted for particular environments, transport of organic nutrients; mineral assimilation and nutrition; and factors affecting the survival of higher plants. Emphasis placed on structure as it relates to function and on the physical/chemical mechanisms involved in maintenance physiology. The laboratory emphasizes experimental techniques and approaches to investigations of plant physiological phenomena discussed in the lecture and the development of scientific writing skills. Students who have completed Bio I. 503 and/or 506 (no longer offered) will not receive major credit for this course. Prerequisites: Bio I. 204 and Chem. 112Q. A 12 305 1 0406

320. Animal Physiology. (5). 3R; 4L. Lab fee. (Offered fall semester only.) An introduction to the physiological mechanisms that control animal functions. Topics covered include: respiration; circulation; nutrition, digestion and energy metabolism; thermoregulation; osmoregulation and excretion; muscular movement and locomotion; sensation; reproduction; and the integration of function. Examples are taken from throughout the animal kingdom. Prerequisites: Bio I. 204 and Chem. 112Q. A 12 320 1 0410

418. The Biology of Ecosystems. (3). (Offered fall and spring semesters.) Principles underlying the interrelationships of living organisms and their environment from the biophysical level to the population level of organization. Prerequisite: Bio I. 204. A 12 418 0 0420

Courses for Graduate/Undergraduate Credit

502. Vascular Plants. (4). 2R; 6L. (Offered fall semester in odd-numbered years.) An introduction to the structure, reproduction and evolution of the major groups of living and extinct vascular plants. An introduction to flowering plant systematics is included. Students earning graduate credit are expected to perform a primary literature survey on a topic selected in consultation with the instructor and complete a 30-minute oral presentation to the class. Prerequisite: Bio I. 204. A 12 502 1 0402

503. Taxonomy and Geography of Flowering Plants. (4). This course serves as an introduction to the principles and methods of plant taxonomy and the study of the patterns of plant distribution and the origin of these patterns. Class time is divided among lectures, laboratories and field work. Field trips to the Flint and Chautauqua Hills provide an opportunity to collect specimens and to observe ecology and distribution of native species of flowering plants. Prerequisite: Bio I. 204 or instructor's consent. A 12 503 0 0402

520. Vertebrate Zoology. (4). 3R; 4L. (Offered fall semester in even-numbered years.) A comparative study of the morphology and phylogeny of the invertebrates with emphasis on the basic body types and their major evolutionary adaptations. Students earning graduate credit are expected to produce a term paper based on current techniques in consultation with the instructor. Prerequisite: Bio I. 204. A 12 520 1 0407

527. Comparative Anatomy. (5). 3R; 4L. (Offered fall semester only.) An intensive study of representative chordates with emphasis on vertebrate anatomy. Students earning graduate credit are expected to complete additional assignments chosen in consultation with the instructor. Such assignments include a term paper based on technical literature, dissection of additional animals, etc. Prerequisite: Bio I. 204. A 12 527 1 0412

528. Parasitology. (3). 2R; 4L. (Offered fall semester only.) The parasites of man and other vertebrate hosts. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Bio I. 204. A 12 528 1 0407

532. Entomology. (5). 3R; 4L. (Offered fall semester in even-numbered years.) An introduction to the morphology, physiology, life cycle, behavior and economic significance of insects. Students earning graduate credit are expected to complete additional assignments chosen in consultation with the instructor or develop proficiency in a specific taxonomic group by performing an individual systematic project. Prerequisite: Bio I. 204. A 12 532 1 0421

534. Mammalian Physiology. (3). (Offered spring semester of odd numbered years.) An introduction to the structure, reproduction and evolution of the major groups of living mammals. Emphasis is placed upon nervous and endocrine control systems and the coordination of body functions. Students earning graduate credit are expected to submit a term paper based upon research on a topic in mammalian physiology chosen in consultation with the instructor. Prerequisites: Bio I. 204 and Chem. 551 or instructor's consent. A 12 534 0 0410

535. Mammalian Physiology Laboratory. (3). (Offered spring semester of odd numbered years.) An empirical approach to mammalian physiology. Students seeking graduate credit are expected to submit an additional laboratory report relating the results of a laboratory experiment to those found in the current technical literature. Prerequisite: concurrent or prior enrollment in Bio I. 534. A 12 535 1 0410

540. Comparative Embryology. (4). 2R; 4L. (Offered fall semester in odd-num­bered years.) Principles and patterns of plant distribution and developmental processes in animals with emphasis on vertebrates. Students earning graduate credit are expected to complete additional assignments chosen in consultation with the instructor. Prerequisite: Bio I. 204. A 12 540 1 0427

544. Histology. (4). 2R; 4L. (Offered spring semester in even-numbered years.) The microscopic anatomy of vertebrate tissues with emphasis on mammals. Students earning graduate credit are expected to complete additional assignments chosen in consultation with the instructor. Prerequisite: Bio I. 204. A 12 544 1 0413

560. Plant Ecology. (4). 2R; 6L. (Offered spring semester in even-numbered years.) Principles and patterns of plant distribution and function, and of adaptation of plants to particular habitats. Emphasis is put on the experimental approach to plant ecology. Field trips are an integral part of the laboratory Prerequisite: Bio I. 204. A 12 560 1 0420

575. Field Ecology. (3). 9L. (Offered fall semester only.) Techniques for analysis of systems consisting of living organisms and their environments. Field trips are required. Students earning graduate credit are expected to perform an individual project on comparative community structure and report the results as a technical paper. Prerequisite: instructor's consent. A 12 575 0 0420

578. Limnology. (5). 2R; 6L. (Offered spring semester in even-numbered years.) Introduction to the biological and physical processes that operate in lakes, streams and estuaries. Assigned readings, individual projects and field trips are required. Students earning graduate credit are expected to investigate the limnological properties of two ponds, comparing their characteristics, or investigate a specific limnological level in a lake. The results of this investigation are reported as a technical paper. Prerequisites: Bio I. 204 and instructor's consent. A 12 578 1 0420

610. Topics in Botany. (2-4). No more than a total of six credit hours earned from among Bio I. 610, 640 and 660 may be applied toward major and graduate requirements. Students must complete a Directed Independent Study Abstract form and obtain departmental approval prior to enrollment. Prerequisite: Bio I. 204. A 12 610 4 0002

620. Animal Behavior. (3). (Offered spring semester only.) A survey of animal behavior including: classification and analysis of behavior as a concept of physiological processes. Students earning graduate credit are expected to produce a term paper based upon the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Bio I. 204 or departmental consent. A 12 620 0 0407
630. Sociobiology. (3). (Offered fall semester in even-numbered years.) A systematic study of the biological basis of social behavior. The course focuses on animal societies, their population, structure, castes and communication and the underlying physiology. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 204 or departmental consent. A 12 630 0 0407

640. Topics in Zoology. (2-4). No more than a total of six credit hours earned from among Biol. 610, 640 and 660 may be applied toward major and graduation requirements. Students must complete a Directed Independent Study Abstract form and obtain departmental approval prior to enrollment. Prerequisite: Biol. 204. A 12 640 4 0407

671. Evolutionary Ecology. (4). 3R; 2L. (Offered fall semester in even-numbered years.) A synthesis of basic principles in population genetics and ecology is presented as a framework for the study of topics in evolutionary ecology. Ecophenes includes (1) the maintenance and structure of population level genetic variation; (2) mating structure and the evolutionary advantages of sex; (3) individual, kin, group selection; (4) population demographic structures; (5) population regulation and dispersal; (6) life history strategies in heterogeneous environments; and (7) demographic and genetic covariance. Basic techniques in population ecology are taught on several short field trips throughout the semester. Students earning graduate credit expected to participate in a weekly seminar as well as to take exams. Prerequisite: Biol. 584. Biol. 418 also is recommended. A 12 671 1 0420

Chemistry

The chemistry department offers a broad and flexible curriculum leading to a variety of degrees and options: Bachelor of Science (BS) in chemistry, Bachelor of Science in chemical science, Bachelor of Science in chemistry—chemical physics option, Bachelor of Arts (BA) in chemistry, biochemistry field major (BS) and chemistry/business field major (BS).

Bachelor of Science in Chemistry. This program requires Chem. 332, 505, 514, 524, 532, 545, 546, 547 and 615 and their necessary prerequisites, including Math. 344 and Phys. 314, 315 and 316 or their equivalents. An additional ten credit hours of professional elective courses must be taken. At least four credit hours of these courses must be selected from chemistry courses above 610 (751 is excluded). Courses that will satisfy the professional elective requirement are (a) Chem. 690 and 669; (b) most elective chemistry courses above 600; (c) numerical methods: Chem. 602, Math. 551, CS 501; (d) electronics: Chem. 625 and 725, EE 492; (e) mathematics courses with Math. 344 prerequisite; (f) physics courses with Phys. 314Q prerequisite; (g) foreign language: one academic year of German or French; and (h) other courses as may be approved (approval required) by student request to the Chemistry Advising Committee.

In agreement with the American Chemical Society Committee on Professional Training, the chemistry department strongly encourages students studying for the BS degree to select courses in computer science, economics, management and business and to utilize every opportunity to develop competence in technical writing and oral communication.

The curriculum for the BS in chemistry is approved by the American Chemical Society for the professional training of chemists. Students completing the program receive certification from the American Chemical Society. Students should consult with an adviser for details.

Bachelor of Science in Chemistry—Chemical Physics Option. Students may elect to participate in this option, which is a joint program with the Department of Physics. Students participating in this option are expected to satisfy the regular BS in chemistry requirements and take six credit hours of upper-division physics courses from Phys. 551, 621, 631, 612 and 714 or other approved courses. All students must take Chem. 642.

Students completing this option are eligible for certification by the American Chemical Society.

Bachelor of Science in Chemical Science. Students in premedical, preprofessional, pre-veterinary, prepharmacy, preoptometry or other preprofessional programs may desire this option for which the following courses are required: Chem. 514, 524, 532 and 663 and their necessary prerequisites; Math 144 or 242Q and one year of physics; six additional credit hours of chemistry courses numbered above 500 (Chem. 605 is recommended) and ten credit hours of Biol. 203Q and 204Q.

This program is designed for students not expecting to become professional chemists and therefore does not necessarily meet standards of certification by the American Chemical Society or entry requirements for graduate work in chemistry.

Bachelor of Arts in Chemistry. This degree requires Chem. 524, 532, 545, 546 and 547 and the necessary prerequisites, including Math. 344 and one year of physics or their equivalents. Students with a substantial interest in the biological sciences may satisfy the BA requirements by substituting Chem. 662 and 664, or Chem. 663, for Chem. 524 (then Chem. 523 is required) or by substituting Chem. 662 or 663 for Chem. 546.

Students who meet the requirements of the BA program may be certified by the American Chemical Society if they also take Chem. 514, 524, 546 and 615 and six hours of professional development courses. Students planning to become teachers of chemistry should complete the bachelor of arts program. Biochemistry Field Major. The departments of biological sciences and chemistry participate jointly in this program. Students selecting this major should seek the advice of one of the departmental chairpersons as early as possible. The required courses are: Biol. 203Q, 204, 500 and 584; Chem. 111Q, 112Q, 523, 531, 532, 662, 663 and 664; Phys. 213Q and 214Q and Math. 112 or 111 and 123. Also required are Chem. 666 and 669 (two enrollments), which are cross-listed in the Department of Biological Sciences, and 21 hours of biochemistry electives.

Chemistry/Business Field Major. The Charles M. Buss program in chemistry/business is designed for students who wish to pursue careers in chemical sales, management, advertising and other related areas. This program requires 30 hours of business courses as follows: Acctg. 210 and 220; Econ. 201Q and 202Q; Bus. Law 435; Fin. 340; Mgmt. 360; and Mkt. 300, 405 and 608. In addition, approximately 30 hours of chemistry and mathematics are required: Chem. 111Q, 112Q, 523, 561 or 662, 531, 532 and 603 and Math. 144 or 242Q.

Students selecting this option should contact the chairperson of the Department of Chemistry as early as possible for advice.

Minor. The chemistry minor consists of at least 14 hours of chemistry courses and must include at least four hours from Chem. 523, 531 and 545. A 2.000 GPA is required.

Advising. All students pursuing one of the above degrees should consult closely with the Department of Chemistry in planning their program. Students should plan to begin required physical chemistry courses during their junior year (see below), thereby requiring that physics and calculus prerequisites be taken earlier. Some courses are not offered on a regular basis. Students should consult advisers.

Minimum Requirements in Chemistry Programs

Bachelor of Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 302</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 505</td>
<td>1</td>
</tr>
</tbody>
</table>
Chem. 514, 531, 532 10
Chem. 533, 534 8
Chem. 547 6
Chem. 548 2
Math. 615 3
Chem. 600-800 4
Phys. 313Q, 314Q, 315Q, 316Q 10
Math. 112, 242Q, 243, 344 18
Professional elective 6

*Part of the required ten hours of professional elective courses (see description above).

**Recommended Course Sequence**

**Freshman**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 112, Precalculus Mathematics</td>
<td>5</td>
</tr>
<tr>
<td><strong>Spring Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 112Q, General and Inorganic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 242Q, Calculus</td>
<td>5</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 302, Microcomputing for Chemists</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 531, Organic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 243, Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 313Q, University Physics</td>
<td>4</td>
</tr>
<tr>
<td><strong>Spring Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 532, Organic Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>Phys. 315Q, University Physics Lab I</td>
<td>1</td>
</tr>
</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td><strong>Fall Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 514, Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 523, Analytical Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Phys. 316Q, University Physics Lab II</td>
<td>3</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 545, Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 505, Chemical Literature</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 524, Instrumental Methods of Chemical Analysis</td>
<td>4</td>
</tr>
<tr>
<td>Biological science</td>
<td></td>
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</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td><strong>Fall Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 546, Physical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry course above 610</td>
<td>4</td>
</tr>
<tr>
<td>Professional elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring courses</strong></td>
<td></td>
</tr>
<tr>
<td>Chem. 615, Advanced Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 547, Physical Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Professional elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Bachelor of Arts**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
<td>10</td>
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</tbody>
</table>

**Bachelor of Science in Chemical Science**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 547, Physical Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>Math. 112, 242Q, 243, 344</td>
<td>18</td>
</tr>
</tbody>
</table>

**Biochemistry Major**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 547, Physical Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>Phys. 110, 112, 113, 123</td>
<td>5-6</td>
</tr>
<tr>
<td>Biochemistry electives</td>
<td>21</td>
</tr>
</tbody>
</table>

**Chemistry/Business Field Major**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 547, Physical Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 531, 532, 534</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 603</td>
<td>3</td>
</tr>
<tr>
<td>Math. 144 or 242Q</td>
<td>3-5</td>
</tr>
<tr>
<td>Acctg. 210 and 220</td>
<td>3-5</td>
</tr>
<tr>
<td>Mkt. 300, 405, 608</td>
<td>9</td>
</tr>
<tr>
<td>Fin. 345</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 360</td>
<td>3</td>
</tr>
<tr>
<td>B. Law 435</td>
<td>3</td>
</tr>
<tr>
<td>Math. 144 or 242Q</td>
<td>3-5</td>
</tr>
</tbody>
</table>

**Lower-Division Courses**

**101Q. The Science of Chemistry.**

- Teaches students the basic concepts of chemistry that will aid them in understanding the physical world in which they live. There is no attempt to teach basic computational or laboratory skills, instead the emphasis is on such concepts as atomic and molecular theory, energy, structures and theories regarding why reactions occur. A 13 101Q 0 1905

**103Q. General Chemistry.**

- Teaches the basic concepts of inorganic, organic, and biological chemistry. The course is recommended for the student who plans to take only one course in chemistry. Students who expect major in the natural sciences should take the Chem. 111Q-112Q sequence. Credit is not granted for both Chem. 103Q and 111Q. Prerequisite: one year of high school algebra or Math. 011. A 13 103Q 0 1905

**110. Preparatory Chemistry.**

- A general chemistry course for students who have not had adequate preparation in chemistry or physics. The course enables students to improve their problem-solving skills, briefly review mathematics relevant to general chemistry and introduce the basic chemical concepts of atoms, molecules, chemical reactions, chemical equations, gas laws and solutions. Credit is allowed in only one of the following courses: Chem. 101Q, 103Q or 111Q. Prerequisites: one and a half units of high school algebra or Math. 011. A 13 110 0 1905

**111Q. General Chemistry.**

- An introduction to the general concepts of chemistry. Chemical stoichiometry, atomic and molecular structure, bonding, gas laws, states of matter and chemical periodicity are included. The Chem. 111Q-112Q course sequence is designed to meet the needs of students who wish to take more than one course in chemistry. Credit is allowed in only one of the following courses: Chem. 111Q, 101Q or 103Q. Prerequisites: one and a half units of high school algebra or Math. 011 or another high school chemistry or physics or a college-level chemistry course. A 13 111Q 0 1905

**112Q. General and Inorganic Chemistry.**

- An introduction to the general concepts of chemistry. Chemical stoichiometry, atomic and molecular structure, bonding, gas laws, states of matter and chemical periodicity are included. The course introduces students to the basic chemical concepts of atoms, molecules, chemical reactions, chemical equations, gas laws and solutions. Credit is allowed in only one of the following courses: Chem. 111Q, 101Q or 103Q. Prerequisites: one and a half units of high school algebra or Math. 011 or another high school chemistry or physics course. A 13 112Q 0 1905

**123Q. General and Analytical Chemistry.**

- An introduction to the general concepts of chemistry. Chemical stoichiometry, atomic and molecular structure, bonding, gas laws, states of matter and chemical periodicity are included. The course introduces students to the basic chemical concepts of atoms, molecules, chemical reactions, chemical equations, gas laws and solutions. Credit is allowed in only one of the following courses: Chem. 111Q, 101Q or 103Q. Prerequisites: one and a half units of high school algebra or Math. 011 or another high school chemistry or physics course. A 13 123Q 0 1905

**124Q. General and Analytical Chemistry.**

- An introduction to the general concepts of chemistry. Chemical stoichiometry, atomic and molecular structure, bonding, gas laws, states of matter and chemical periodicity are included. The course introduces students to the basic chemical concepts of atoms, molecules, chemical reactions, chemical equations, gas laws and solutions. Credit is allowed in only one of the following courses: Chem. 111Q, 101Q or 103Q. Prerequisites: one and a half units of high school algebra or Math. 011 or another high school chemistry or physics course. A 13 124Q 0 1905

**201. Glass Blowing.**

- A laboratory course utilizing the principles and techniques of glass blowing for the production of scientifically useful equipment. Prerequisite: recommendation of the chemistry department. A 13 201 1 1905

**281. Cooperative Education in Chemistry.**

- The course permits chemistry students to participate in the Cooperative Education program. Offered CR/NC only. A 13 281 2 1909
302. Microcomputing for Chemists. (1). An introduction to microcomputers and their applications to the calculation aspects of chemistry. Topics include the BASIC language, function evaluation, disk operations, graphics, function plotting, numerical methods for calculation, spreadsheet and database utilization and machine-language programming. Prerequisite: Chem. 112Q. A 13 302 0 1905

303. Elementary Organic Chemistry Laboratory. (2). Lab fee. A basic laboratory course to provide pertinent experiences in the laboratory to fortify the survey lecture course Chem. 533. Prerequisite or corequisite: Chem. 533. A 13 533 1 1907

501. Acids, Bases and pH. (1). The study of properties characteristic of acids and bases, typical acid-base reactions, indicators, pH, solution concentration, titration and buffers. The course begins with a study of Lewis structures of atoms, molecules and ions. Prerequisite: inservice elementary teacher or departmental consent. A 13 501 0 1905

505. Chemical Literature. (1). A survey of chemical publications and the publication process. The course is designed to give the student the ability to conduct a proper search of the literature for chemical information. Aspects of the literature, terminology, indexing and abstracting. Prerequisite: Chem. 531. A 13 505 1 1905

514. Inorganic Chemistry. (3). Basic inorganic chemistry with an emphasis on molecular symmetry and structure, fundamental bonding concepts, ionic interactions, periodicity of the elements, systemsatics of the chemistry of the elements, periodic variations in chemical properties and non-aqueous solvents, classical coordination chemistry and introductory bioinorganic chemistry. Prerequisite: Chem. 112Q with a grade of "C" or better. A 13 514 0 1906

523. Analytical Chemistry. (4). Lab fee. Evaluation of data, statistical methods for calculation, smoothing of experimental data; numerical methods. Prerequisite: Chem. 523 or 124Q. A 13 523 1 1909

524. Instrumental Methods of Chemical Analysis. (4). Lab fee. Introduction to electroanalytical chemistry and optical methods of analysis and analysis and separation of complex mixtures, both inorganic and organic. Spectroscopy and computer programming is discussed as it applies to analytical chemistry. Prerequisite: Chem. 523 or 124Q. A 13 524 1 1909

531. Organic Chemistry. (3). Lab fee. An introduction to the study of carbon compounds with emphasis upon reaction mechanisms, stereochemistry and spectrographic analysis. Prerequisite: Chem. 512Q or 124Q with a grade of "C" or better. A 13 531 1 1907

532. Organic Chemistry. (5). Lab fee. A continuation of Chem. 531 with emphasis on reaction mechanisms, stereochemistry, and applications of principal functional groups and compounds of biological interest. Prerequisite: Chem. 531. A 13 532 1 1907

533. Elementary Organic Chemistry. (3). Basic organic chemistry with a special emphasis on topics of importance to future professionals in the pharmaceutical and allied professions. Topics include emphasis upon carbohydrates, proteins, drugs, pesticides and energy production. Students should also enroll in Chem. 534 simultaneously. Prerequisite: inservice elementary teacher or departmental consent for both Chem. 533-534 and 531. This course does not meet the needs of chemistry majors or premed students. Prerequisite: Chem. 532 or equivalent. A 13 533 0 1907

605. Medicinal Chemistry. (3). For students interested in chemistry related to the design, development and production of drugs. The primary purpose of the course is to describe those organic substances that are used as medicinal agents and to explain the mode of action and potential medical efficacies of drugs in the body; to illustrate the importance and relevance of chemical reactions as a basis of pharmacological activity, drug toxicity, and to bring about a better understanding of drugs. Topics include transport, basic receptor theory, metabolic transformation of drugs, discussion of physical and chemical properties of inorganic compounds, and biological activity and drug design. The course is oriented toward consultation and discussion of a select number of organic medicinal agents. Prerequisite: Chem. 532 or equivalent; a semester of biochemistry (Chem. 561 or 662) and a year of biology are strongly recommended. A 13 605 1905

613. Inorganic Chemistry Laboratory. (2). Lab fee. Experimental methods of inorganic chemistry. Prerequisite: Chem. 533 or equivalent; concurrent enrollment. A 13 613 1 1906

624. Advanced Analytical Chemistry. (3). Lab fee. Free electron and emission spectroscopy, light scattering techniques, mass spectrometry, nuclear magnetic resonance, polarography, voltammetry and coulometry. Prerequisite: Chem. 524. A 13 624 1 1909

625. Electronics. (2). Lab fee. Provides a working knowledge of electronic devices and circuits for the student or research worker who has little or no background in electronics. Prerequisite: instructor's consent. A 13 625 1 1909

642. Chemical Physics. (3). Topics in areas of overlapping interest for students of chemistry and physics such as thermodynamics, kinetics, quantum mechanics, solids and various types of spectroscopy. Standard experimental techniques used in research in chemical physics are discussed by a team of chemists and physicists. Prerequisite: Chem. 641 or instructor's consent. A 13 642 0 1905

662. Biochemistry of Cell Constituents, Catalysis, Oxidation, Photosynthesis. (3). Study of major constituents of the cell: protein, carbohydrate, glycoprotein, lipids, nucleic acid, nucleotide, nucleoside, catalysis; biological oxidations, photosynthesis; and introduction to intermediary metabolism. A fundamental background of biology or microbiology is recommended but not essential. Biochemistry field majors should enroll concurrently in Chem. 664. Prerequisites: Chem. 523 and 532 or equivalents. A 13 662 0 0414

693. Biochemistry of Cell Metabolism, Biosynthesis, Structure, Function and Regulation of Proteins and Nucleic Acids. (3).
(3). Study of metabolism and control of carbohydrates, lipids, phosphoglycerides, spin- 
golipids, steroids, amino acids and proteins; synthesis of porphyrins, amides and poly-
merization of amino acids, purines, pyrimidines and nucleotides; synthesis and struc-
ture of DNAs, RNAs and proteins; organization and functioning of genes; evolution of 
proteins and nucleic acids; hereditary disorders; synthesis of amino acids, phospho-
lipids and carbohydrates; major nutrients and vitamins; body fluids and generalization of tissues. A 
fundamental background of biology or microbiology is recommended but not essential.
Prerequisite: Chem. 662. A 13 663 0 0414

664. Biochemistry Laboratory. (3) 1R; 6L. Lab fee. Practical training in biochemical procedures and laboratory 
searching; experiments include isolation, characterization and assay of biomolecules and use of centrifuga-
tion, chromatography, electrophoresis, spectrophotometry, enzyme kinetics and radioactive 
testing techniques. Should be taken concurrent with Chem. 662 or Chem. 652.
Prerequisite: Chem. 532 or equivalent. A 13 664 0 0414

666. Special Topics in Biochemistry. (3). (Offered spring semester in odd-numbered years.) A small 
number of current problems in biochemistry are discussed in depth. Reading of published research in the 
field is required. Prerequisites: Biol. 204 and Chem. 662 and 663. A 13 666 9 9414

669. Research in Biochemistry, (2). Cross-
listed as Biol. 669. S/U grade only. Students in the biochemistry field major participate in a biochemistry research project under the di-
rection of a faculty member. A written report summarizing the results is required. May be 
repeated once for credit. Prerequisites: Biol. 204 or 205 and Chem. 520 or 665 and 664. A 13 669 4 0414

690. Independent Study and Research. (2-
3). Studies performed must be directed by a faculty member in the Department of Chem-
istry. Repeatable for credit. A maximum of three credit hours may be counted toward 
graduate credit. Prerequisite: consent of the de-
partment. A 13 690 4 0195

700. Chemistry Seminar. (1). S/U grade only. Seminars are given by students on ei-
ther papers recently published in the litera-
ture or on their own research. Repeatable for 
credit. A 13 700 9 1905

701. Chemistry Colloquium. (1). S/U grade only. Speakers for the colloquium consist of 
outstanding chemists from other institutions and faculty. Repeatable for credit. A 13 701 9 
1905

705. Molecular Symmetry. (1). A study of the 
chemically relevant aspects of group theory. Topics include symmetry elements, 
classification of crystallographic point, space group, and molecular and representations of groups. A 13 705 0 1905

709. Special Topics in Chemistry. (2-3). A dis-
cussion of topics of a special significance and interest to faculty and students. Offerings 
and content differ from one offering to the next. A 13 709 0 1905

712. Coordination Chemistry. (3). The study of the synthesis, characterization and prop-
erties of coordination compounds. Topics include nomenclature, fundamental bonding 
concepts, principles of synthesis, mechanisms of substitution and electron transfer reactions, catalysis and solid-state phenomena. Prerequisite: Chem. 615 or equivalent. A 13 712 9 1906

713. Physical Methods in Inorganic Chem-
istry. (3). An introduction to electronic and vibrational spectroscopy, magnetic suscepti-
bility, EPR, NMR, Mossbauer spectroscopy and X-ray crystallography as applied to inor-
ganic systems. Emphasis is placed upon in-
terpretation of results for understanding the 
chemical and electronic structure of com-
pounds. Prerequisite: Chem. 705 or equiva-
 lent. A 13 713 0 1906

725. Digital Computers in Chemical In-
strumentation. (3). An introduction to the 
use of the small digital computer in the labo-
atory. Lectures deal with digital logic, data 
acquisition techniques and the on-line digital computer in instrumentation. Laboratory ex-
perience covers the design of digital logic circuits and interfacing with the small digital computer. A 13 725 1 1905

731. Physical Organic Chemistry. (3). Dis-
cussion of advanced topics in stereo-
chemistry and conformational analysis and 
organic reaction mechanisms. Prerequisite: Chem. 532. A 13 731 0 1907

732. Advanced Organic Synthesis. (3). Dis-
cussion of modern synthetic methods in organic chemistry including carbon-carbon 
forming reactions, oxidation and reduction reactions, protective groups and organome-
tallic chemistry. Prerequisite: Chem. 532. A 13 732 0 1907

738. Structure Determination and Spectral 
Analysis of Organic Compounds. (3). A 
discussion of chiroptical techniques, infrared, 
ultraviolet, nuclear magnetic and electron 
spin resonance and mass spectrophotometry and 
their practical utilization in structure deter-
mination. Prerequisite: Chem. 532. A 13 738 0 1907

741. Quantum Chemistry. (3). Theoretical 
basis of atomic and molecular structure. Top-
ics include the postulates of quantum mechanics, the Schrodinger equation, the perturbation in-a-box and the hydrogen atom, vibration and perturbation techniques, electron spin, 
Hartree-Fock and configuration-interaction methods, molecular orbital and valence-bond wave functions and vibrational and Hartmann-Feynman theorems. Prerequisite: Math. 544 or 545 or equivalent. Corequisite: Chem. 705 or equivalent. A 13 741 0 1908

751. Introduction to Polymer Synthesis. (3). A study of the major synthetic routes to 
high polymers, including step growth free radical, anionic, cationic and Ziegler-Natta 
polymerizations. Prerequisites: Chem. 531 and 532. A 13 751 1 1999

752. Polymers and Composites. (3). A study of the physical states of polymeric sys-
tems (glassy, amorphous, crystalline, amor-
phous), polymer failure processes, polymer blending and reinforcement and resin chem-
istry. Prerequisites: Chem. 531, 532, 545 and 546. A 13 752 0 1999

763. Structure-Function Analysis of Bio-
medical Systems. (3). A study of the physical, 
chemical and biological tools used for studying biomolecules. Topics include appli-
cation of radiolabelling, autoradiography; 
primary, secondary and tertiary structural analy-
yses, molecular dynamics and reaction kinetics; high-performance liquid chromatog-
raphy; gel electrophoresis, and spectroscopi-
cal, immunological and ligand binding
methods. Prerequisites: one semester of un-
dergraduate biochemistry and Chem. 546. A 13 763 0 0414

(3). An examination of the physical principles that form the basis for the structure and 
activity of biological macromolecules. Topics covered include the conformational analysis 
of molecular building blocks and its relation to the higher order structures of proteins, nu-
ic acids, lipids and carbohydrates, energetic, 
and protein interactions and solution properties; thermodynamics, elementary treatment of chain statistics and macromolecular flexibility, 
transport processes and multiple binding equilibria. Prerequisites: Chem. 546 and 662 or equivalent. A 13 784 0 0414

Courses for Graduate 
Students Only

809. Special Studies in Chemistry. (2-
3). Systematic study in selected areas of chemistry. Repeatable for credit. Course content differs from one offering to the next. A 13 809 0 1905

814. Organometallic Chemistry. (3). A 
study of the synthesis, structure, bonding, 
reactions and catalysis of organometallic 
compounds. Prerequisite: Chem. 615 or equiva-
 lent. A 13 814 0 1906

815. Bioinorganic Chemistry. (3). The 
study of the role of inorganic chemistry in 
biochemical systems. Topics include electron 
transport, biological catalysis mediated by metal ions, metal storage and transport, ion 
transport and the role of transition metals in 
metabolism. Prerequisites: Chem. 615 and 663 or equivalents. A 13 815 0 1906

821. Equilibrium and Statistics in Analyti-
cal Chemistry. (3). The course will cover 
homogeneous and heterogeneous solution 
equilibrium calculations and statistical 
methods used in experiment design and data 
analysis. Prerequisite: Chem. 524 or equiva-
lent. A 13 821 0 1905

822. Analytical Separations. (3). The 
theory and practice of analytical separation
methods including gas and liquid chromato-
ography, ion exchange and electrophoresis. 
Prerequisites: Chem. 524 or equivalent. A 13 822 0 1906

823. Analytical Spectroscopy. (3). Absorp-
tion (UV, visible, IR and atomic), emission 
flame emission and atomic absorption spec-
trometry, molecular fluorescence and phos-
phorescence methods; Raman, nuclear 
magnetic resonance and electron spin reso-
nance spectroscopy; X-ray methods. Lect-
ures and discussions on theory and practice 
give particular emphasis is placed upon instrumen-
tation and the acquisition of artifact-free data. Prerequisite: Chem. 524 or equivalent. A 13 823 0 1906

824. Electroanalytical Chemistry. (3). 
Topics include voltammetry, polarogra-
phy, chromoanodometry and coulometry, reversible and non-reversible 
redox reactions; electroanalytical 
processes: CE (chemical reaction before 
electrical reaction), EC (electrical reaction 
before chemical reaction) and catalytic reac-
tion; and organic photoredox and voltam-
metry. Prerequisite: Chem. 524 or equivalent. A 13 824 0 1909

831. Advanced Physical Organic Chemis-
try. (3). Topics include molecular orbital 
theory, sigma and biradical rearrangements elec-
tro-cyclic reactions, cycloadditions, reactive in-
832. Modern Synthetic Methods. (3). Discussion of retrosynthetic analysis, applications, asymmetric syntheses and stereochemistry. Prerequisite: Chem. 737. A 13 832 0 1907

833. Natural Products Chemistry. (3). Discussion of the structure, chemistry and bio-synthesis of the alkaloids, steroids, terpenoids, carbohydrates and aromatic and aliphatic natural products. Chem. 732. A 13 833 0 1907

834. Heterocyclic Chemistry. (3). An account of the physical and chemical properties of the main classes of heterocyclic compounds. Prerequisite: Chem. 732. A 13 834 0 1907

835. Bioorganic Chemistry. (3). Topics covered include the chemistry of amino acids and peptides, enzyme structure and function and inhibitor design. Prerequisites: Chem. 662, 663, and 732 or 662 and concurrent enrollment in 665 and 732. A 13 835 0 1907

841. Advanced Quantum Chemistry. (3). Advanced applications of quantum mechanics to atomic and molecular problems will be considered. Topics include determinant wavefunctions, angular momentum coupling, time-dependent perturbation theory, relativity considerations, tensor operators and molecular orbital calculations. Prerequisites: Chem. 705 and 741 or equivalents. A 13 841 0 1908

842. Chemical Kinetics. (3). A description of reacting systems, including the mathematical and experimental characteristics of simple and complex kinetic systems. The theories of chemical kinetics are discussed, as well as the kinetics of homogeneous reactions in the gas phase, the kinetic aspects of solution reactions, heterogeneous reactions and selected topics of current interest. Prerequisite: Chem. 546 or equivalent. A 13 842 0 1908

843. Statistical Thermodynamics. (3). Boltzmann, Fermi-Dirac and Bose-Einstein statistical mechanics will be developed with applications made to gaseous-state and solid-state chemical problems. The relationship of statistical mechanics and thermodynamics will be emphasized. Applications of statistical thermodynamics to polymers will be considered. Prerequisites: Chem. 546, 745 or equivalents. A 13 843 0 1908

844. Chemical Thermodynamics. (3). A presentation of the basic three laws of thermodynamics in a classical framework designed to increase one's understanding of real physical systems. Course is designed to emphasize theory and its application to chemical systems. Prerequisites: Chem. 545, 546 and Math 344 or equivalents. A 13 845 0 1908

846. Molecular Spectroscopy. (3). The theoretical basis for spectroscopy and spectroscopic determinations of molecular structure. Topics include polarization, electric field, time-dependent perturbation theory, vibration and rotation of diatomic molecules, vibration and rotation of polyatomic molecules, electronic spectra, Raman and infrared resonance spectroscopy. Prerequisites: Chem. 741 or its equivalent and Chem. 705 or its equivalent. A 13 846 0 1908

847. Chemistry of Condensed Matter. (3). Topics will include thermodynamics, statistical mechanics, quantum chemistry and structural determinations of condensed phase materials. Emphasis on metals, alloys, intermetallic compounds, composite materials and advanced materials will occur. Prerequisites: Chem. 741 and 745 or equivalents. A 13 847 0 1908

852. Techniques of Polymer Characterization. (3). A study of physical, spectroscopic and electrical techniques to determine the size, structure and morphology of polymers. A 13 852 0 1999

861. Enzyme Mechanisms. (3). An introduction to the study of enzyme mechanisms. Modern approaches include steady-state, relaxation and chemical modification methods. Prerequisite: Chem. 662 or 665 or equivalent. A 13 861 0 0414

862. Biotechnology: Principles and Applications. (3). Course presents a broad, informal view of contemporary biotechnology, including its role in the production of premium products from biological raw materials. Biotechnology involvement for the production of products include energy, food, drink, flavors, chemicals, biopolymers, medicines and agricultural materials. Prerequisites: Biol. 203 and 204 and Chem. 662 or 663 or equivalents. A 13 862 0 0414

863. Analytical Biochemistry. (3). A review of modern analytical methods used in biochemistry and molecular biology including absorbance and florescence spectroscopy, chromatography (affinity, gel-filtration, HPLC, ion-exchange, ion-pair), gel electrophoresis, radioactive tracer methods, cloning, sequencing and DNA methodology. Prerequisites: Biol. 203 and 204 and Chem. 662 or 663 or equivalents. A 13 863 0 0414

864. Physical Biochemistry II: Techniques. (3). An examination of the physical techniques that are used to study the structure, properties and reactions of biological molecules and macromolecules. Topics covered include vibrational and electronic molecular spectroscopy, electron microscopy, radioactive tracer methods; cloning, sequencing and recombinant DNA procedures. Prerequisites: Biol. 203 and 204 and Chem. 662 or 663 or equivalents. A 13 864 0 0414

890. Research in Chemistry. (2-12). S/U grade only. Research for the student planning to receive a BS. Research is directed by a faculty member. Repeatable for credit. A 13 890 4 1905

900. Research in Chemistry. (2-12). S/U grade only. Research for the student planning to receive a MS. Research is directed by a faculty member. Repeatable for credit. A 13 900 4 1905

909. Research in Chemistry. (2-16). S/U grade only. Research for the student planning to receive a PhD. Research is directed by a faculty member. Repeatable for credit. A 13 909 4 1905

946. Molecular Spectroscopy. (3). The theoretical basis for spectroscopy and spectroscopic determinations of molecular structure. Topics include polarization, electric field, time-dependent perturbation theory, vibration and rotation of diatomic molecules, vibration and rotation of polyatomic molecules, electronic spectra, Raman and infrared resonance spectroscopy. Prerequisites: Chem. 741 or its equivalent and Chem. 705 or its equivalent. A 13 946 0 1908

Communications

Students interested in communications should see the speech, minority studies, linguistics and journalism listings in this Catalog. The Master of Arts in communications (MA) is offered as an interdisciplinary program. Information on the MA can be found in The Wichita State University Graduate Bulletin.

Courses for Graduate Students Only

801. Introduction to Communications Research. (3). An integrative approach to an understanding of the nature and scope of communication research as it applies to communication theory, mass communication, cross-cultural communication and theater/drama. An overview of the current status of research in these areas is provided. Students are instructed in the basic steps of research, availability of library and other resources, bibliographic search, computer accessing of source materials, organization, style and format of a research report and citation of sources in footnotes and bibliographies in accordance with standard style guides. This course should be taken at the beginning of the graduate program. A 32 801 0 0601

802. Historical and Qualitative Methodologies in Communication Research. (2). An introduction to historical, critical and observational methodologies in communication research. The course emphasizes historical, critical and observational research, with particular emphasis on those forms of research common to communication studies. Prerequisite: Comm. 801. A 32 802 0 0601

803. Empirical/Quantitative Research Methodology in Communication. (2). An introduction to empirical research methods in communication. The course emphasizes both experimental and nonexperimental research with particular emphasis on research common to communication studies. Students study research design, methods and reporting techniques. Prerequisite: Comm. 801. A 32 803 0 0601

875. Directed Research (1-3). Directed research culminating in a written research paper on a specific investigation, project, or production. Supervised by a committee of four graduate faculty members. Required of all Master of Arts in Communications (MAC) degree students who select the nonthesis option. Course should be taken after completion of 24 hours of graduate work approved in the plan of study. Not renewable for credit nor available to students taking Comm. 875-876. Prerequisites: Comm. 801 and Comm. 802 or 803. A 32 875 0 1908

875-876. Thesis. (2-2). A 32 875 4 0601; A 32 876 4 0601

Computer Science

Students may earn either the Bachelor of Science (BS) or the Bachelor of Arts (BA) degree in computer science. Both degrees provide in-depth preparation for professional work in industry or government. The BS degree is especially useful for scientific applications or preparation for graduate study in computer science.

Math Requirements: Students earning the BS degree must complete a minimum of 16 hours of college-level mathematics; those earning the BA degree must complete a minimum of nine hours of college-level mathematics. (See details below.)

Sequence Electives: Both the BS and BA degrees in computer science require that students complete 15 hours of sequence electives. These 15 hours of as-
sociated course work give students some knowledge of a field where computers might be used. Areas most frequently chosen are such computer science fields as artificial intelligence, software engineering and systems analysis or related fields such as business, electrical engineering and mathematics. All sequence electives must be approved by the departmental adviser.

Major: Bachelor of Science (BS). This degree requires a minimum of 40 hours of computer science and 16 hours of mathematics including the following courses:

**Computer Science:** 140, 200Q, 212, 216, 300, 340, 405, 420, 485, 501, 510, 540, 560 and an additional computer science language.

**Mathematics:** 112 (or equivalent), 242Q, 243, 211, 331Q.

**Sequence Electives:** 15 hours of course work chosen in consultation with the departmental academic adviser. (See above for details.)

Major: Bachelor of Arts (BA). This degree requires a minimum of 34 hours of computer science and nine hours of mathematics, including the following courses:

**Computer Science:** 140, 200Q, 212, 216, 300, 340, 405, 420, 485, 510, 540 and an additional computer science language.

**Mathematics:** 111 (or equivalent), 211, 331Q.

**Sequence Electives:** 15 hours of course work chosen in consultation with the departmental academic adviser. (See above for details.)

Minor: The minor requires a minimum of 15 hours of computer science course work, including the following courses:

**Computer Science:** 140, 200Q, 212, six hours of upper-division computer science course work and an additional course of the student's choice.

**Mathematics:** Math 111 (or equivalent) and 211. These courses are prerequisites to the required computer science courses.

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**Model Program for BS in Computer Science**

### Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS140, Introduction to Computer Hardware</td>
<td>3</td>
</tr>
<tr>
<td>Math. 112, Precalculus Mathematics (or equivalent)</td>
<td>5</td>
</tr>
<tr>
<td>CS 211, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>CS 200Q, Introduction to Programming</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Math 211, Introduction to Programming</td>
<td>3</td>
</tr>
</tbody>
</table>

### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hist. 131Q or 132Q, History of the United States, or Pol. Sci. 121Q, American Politics</td>
<td>3</td>
</tr>
<tr>
<td>CS 212, PASCAL Programming</td>
<td>3</td>
</tr>
<tr>
<td>CS 300, Fundamental Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CS 216, Assembly Language Programming</td>
<td>3</td>
</tr>
<tr>
<td>Math. 243, Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>Humanities Q/G (literature)</td>
<td>3</td>
</tr>
<tr>
<td>Natural science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

### Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 340, Computer Organization and Programming</td>
<td>3</td>
</tr>
<tr>
<td>CS 420, Concepts of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>Sequence electives for computer science</td>
<td>6</td>
</tr>
<tr>
<td>Math. 331Q, Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>CS 501, Numerical Programming Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CS 540, Operating Systems and Architecture I</td>
<td>3</td>
</tr>
<tr>
<td>Humanities Q/G</td>
<td>3</td>
</tr>
</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 560, Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 510, Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>CS 485, Debugging Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Sequence electives for computer science</td>
<td>9</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral science elective</td>
<td>3</td>
</tr>
<tr>
<td>CS language</td>
<td>3</td>
</tr>
<tr>
<td>Natural science electives</td>
<td>6-8</td>
</tr>
</tbody>
</table>

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**Model Program for BA in Computer Science**

### Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 140, Introduction to Computer Hardware</td>
<td>3</td>
</tr>
<tr>
<td>Math. 111, College Algebra (or equivalent)</td>
<td>3</td>
</tr>
<tr>
<td>CS 105, 110Q and 150</td>
<td>3</td>
</tr>
</tbody>
</table>

### Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 212, PASCAL Programming</td>
<td>3</td>
</tr>
<tr>
<td>Math 211, Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CS 300, Fundamental Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CS 216, Assembly Language Programming</td>
<td>3</td>
</tr>
<tr>
<td>Math. 243, Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>Humanities Q/G (literature)</td>
<td>3</td>
</tr>
</tbody>
</table>

### Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 405, File Processing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CS 340, Computer Organization and Programming</td>
<td>3</td>
</tr>
<tr>
<td>Sequence electives for computer science</td>
<td>6</td>
</tr>
<tr>
<td>Math. 331Q, Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral science elective</td>
<td>3</td>
</tr>
<tr>
<td>CS language</td>
<td>3</td>
</tr>
<tr>
<td>CS 540, Operating Systems and Architecture I</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language 2xx</td>
<td>5</td>
</tr>
</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 510, Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>Sequence electives for computer science</td>
<td>6</td>
</tr>
<tr>
<td>Social and behavioral science elective</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral science elective</td>
<td>3</td>
</tr>
<tr>
<td>CS language of choice</td>
<td>3</td>
</tr>
<tr>
<td>CS 485, Debugging Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3</td>
</tr>
</tbody>
</table>

* Choice depends on Am. Govt. selection.

**Note:** Electives above must be carefully chosen so that all department, college and University graduation requirements are satisfied.

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**Model Program for BA in Computer Science**

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<tr>
<td>CS 105, 110Q and 150</td>
<td>3</td>
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<td>Math 211, Introduction to Programming</td>
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<tr>
<td>CS 300, Fundamental Algorithms</td>
<td>3</td>
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<tr>
<td>CS 216, Assembly Language Programming</td>
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<td>Social and behavioral science Q/G</td>
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<tr>
<td>Humanities Q/G (literature)</td>
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<tr>
<td>Math. 331Q, Discrete Mathematics</td>
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<tr>
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<tr>
<td>CS language</td>
<td>3</td>
</tr>
</tbody>
</table>

### Senior Year

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CS 510, Programming Languages</td>
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</tr>
<tr>
<td>Sequence electives for computer science</td>
<td>6</td>
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<tr>
<td>Social and behavioral science elective</td>
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<tr>
<td>Humanities and fine arts or social and behavioral science elective</td>
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<tr>
<td>CS language of choice</td>
<td>3</td>
</tr>
<tr>
<td>CS 485, Debugging Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3</td>
</tr>
</tbody>
</table>

* Choice depends on Am. Govt. selection.

**Note:** To enroll in a computer science course, students must earn a grade of C or better in Eng. 101 and one of the following: Math. 109, 111, 112 or 211. Exceptions to this prerequisite are the following courses designed for nonmajors: CS 105, 110Q and 150.
Lower-Division Courses

105. **An Introduction to Computers.** (3). 2R; 3L. An introductory course for students who wish to familiarize themselves with the computer. It covers basic computer concepts in hardware and software and illustrates a wide range of applications in education, government, business, industry and the home. Students gain experience in actually operating a microcomputer through lab exercises using standard software packages. These include word processing, spreadsheet, data base and graphics packages. No credit toward the major or minor in computer science. Credit is granted in only one of the following courses: CS 105 or 190. Prerequisites: familiarity with typewriter keyboard and minimal typing skills. A 34 105 1 0701

110Q. **An Introduction to Computers and Their Applications.** (2). 2R; 2L. An introductory course offered on television for students who wish to familiarize themselves with the computer. It covers basic computer concepts in hardware and software and illustrates a wide range of applications in education, government, business, industry and the home. No credit toward the major in computer science. Credit granted in only one of the following: CS 110Q or 105. A 34 110Q 1 0701

140. **Introduction to Computer Hardware.** (3). 2R; 2L. An introduction to digital computer hardware. Topics include number systems, Boolean logic, computer components and programming. The laboratory is used for extension of the concepts introduced in lecture and for drill. Students use elementary laboratory equipment and put together simple electronic circuits typical of the kind found in current computers. Prerequisite: Eng. 101 and Math 109 or 111 with a grade of C or better in each. A 34 140 1 0702

150. **Workshop.** (1-5). Short-term courses with special focus on introducing new computer techniques. Repeatable for credit. Prerequisite: departmental consent. A 34 150 2 0701

190. **Introduction to Programming for Business.** (3). 2R; 3L. This is a survey of the means and methods of business data processing. It includes the description of computer hardware used in the business environment and an introduction to software and systems development. The course contains a programming component using a computer language. No computer science language class can be taken concurrently. Credit granted in only one of these three courses: CS 190, CS 200Q or EE 199. Prerequisites: Eng. 101 and Math 109, 111, 112 or 211 with a grade of C or better in each. A 34 190 1 0703

200Q. **Introduction to Programming.** (2). An introduction to the process of analyzing problems and describing their solutions in procedure-oriented languages. Topics include concepts and uses of computers, functions, algorithms, program documentation and a survey of computer programming languages. No direct experience with computers is provided in this class. Credit granted in only one of these courses: CS 190, CS 200Q or EE 199. Prerequisites: Eng. 101 and Math 109, 111, 112 or 211 with a grade of C or better in each. A 34 200Q 0 0704

201. **FORTRAN Language.** (3). 2R; 2L. Fundamentals of computer programming in FORTRAN and its application to problems. Prerequisites: CS 190 or 200Q and Math. 109, 111 or 112 with grades of C or better or departmental consent. Credit not granted to students who have already completed EE 199. A 34 201 1 0704

202. **PL/I Language.** (3). 2R; 2L. Fundamentals of computer programming in PL/I and its application to problems. Prerequisites: CS 190 or 200Q or EE 199 and Math. 109, 111 or 112 with grades of C or better or departmental consent. A 34 202 1 0704

205. **COBOL Language.** (3). 2R; 2L. Fundamentals of computer programming in COBOL and its application to problems. Prerequisites: CS 190 or 200Q or EE 199. A 34 205 1 0704

206. **BASIC Language Programming.** (3). 2R, 2L. Fundamentals of computer programming in BASIC and its application to problems. No credit granted toward the major in computer science. Credit granted in only one of the following: CS 190 or 206. Prerequisites: CS 190 or 200Q. A 34 206 1 0704

207. **C Language.** (3). 2R; 2L. Fundamentals of computer programming in C and its application to problems. Prerequisites: CS 140 and 200Q or equivalent with grades of C or better. A 34 207 1 0701

212. **PASCAL Programming.** (3). 2R; 2L. Fundamentals of computer programming in PASCAL and its application to problems. Prerequisites: CS 190 or 200Q or EE 199 and Math. 109, 111 or 112 with grades of C or better or departmental consent. A 34 212 1 0704

213. **PROLOG Programming.** (3). 2R; 2L. Fundamentals of declarative programming in PROLOG and its application to problems. Prerequisites: Phil. 125Q; and Math. 140 or 111 or 112; and Eng. 101 with a C or better in each. A 34 213 1 0704

214. **LISP Programming.** (3). 2R, 2L. Fundamentals of computer programming in LISP and its application to problems. Prerequisites: CS 190, 200Q or EE 199 and Math. 109, 111 or 112. Credit not granted toward the major in computer science. Credit granted in only one of these three courses: CS 190, CS 200Q or EE 199. Prerequisites: Eng. 101 and Math 109, 111, 112 or 211 with a grade of C or better in each. A 34 214 1 0704

215. **Ada Language.** (3). 2R; 2L. Fundamentals of computer programming in Ada and its application to problems. Prerequisite: CS 212 or equivalent with grade of C or better. A 34 215 1 0704

216. **Assembly Language Programming.** (3). 2R; 2L. Fundamentals of computer programming in 370 BAL and its application to problems. Prerequisites: CS 140 and 200Q or equivalent and one course numbered 201 through 214 with grades of C or better. A 34 216 1 0704

222. **Introduction to Programming with Pascal.** (5). 4R; 2L. An introduction to the process of analyzing problems and designing solutions in Pascal language. Topics include basic computer concepts in hardware and software, the uses of procedural languages, writing algorithms and program documentation. This course is a one-semester course that is a prerequisite for subsequent computer science courses. Prerequisites: CS 190 or 200Q or EE 199 and Math. 109, 111 or 112 with grades of C or better or departmental consent. A 34 222 1 0704

Upper-Division Courses

300. **Fundamental Algorithms.** (3). 2R; 2L. A second course in programming designed to build the student's knowledge of algorithm development. Topics include internal sorting and searching, stacks, queues, linked lists, string processing, recursion and matrix operations. Projects involving one or more large programs allow the student to apply the material. Prerequisites: CS 200Q, 212 and Math. 211 with a grade of C or better in each; and signed departmental consent. Math. 211 may be taken concurrently. A 34 300 1 0704

340. **Computer Organization and Programming.** (3). 2R; 2L. A study of basic computer architecture and programming technique required to control it. Topics include number representation, arithmetic, communication between major computer components, instruction processing cycle, addressing techniques and the concepts of microprograms. Programming problems will demonstrate the concepts. Prerequisite: CS 216 or EE 228 with a grade of C or better. A 34 340 1 0702

350. **Microcomputing for Scientists and Engineers.** (3). 2R; 2L. An introduction to microcomputers and their use in science and engineering. Topics include PASCAL language, Assembly language, numerical methods, graphics, file operations, software and hardware interfacing, digital control and data acquisition. Actual use of microcomputers for experiment control and evaluation is emphasized. Credit not granted toward the major in computer science. Credit granted in only one of the following courses: CS 350 or EE 323. Prerequisites: Chem. 1110, 1120, Phys. 1110, 1210 or Engr. 125 A 34 350 1 0704

365. **Introduction to Computer Graphics.** (3). 2R; 2L. An introduction to interactive computer graphics which presents the basic concepts of the field. Topics include geometry of computer graphics, graphics primitives, two- and three-dimensional representation, transformation, data structures, windowing and clipping, hidden lines and surfaces and shading. Extensive use of computers provide practical experience. Prerequisite: CS 300. A 34 365 0 0704

405. **File Processing Techniques.** (3). 2R, 2L. Extending the student's knowledge of algorithm and data structure design to include file I/O processing. Topics include lists, sequential access and update, external sort/merge, random access, data base, indexes, file structure and management. Prerequisite: CS 300 with a grade of C or better. A 34 405 1 0704

420. **Concepts of Computer Science.** (3). Selected theoretical areas of computer science are introduced. Several independent topics are presented to interest the student in further independent study or graduate work in one of these areas. Probable topics include Turing machines, hardness problems, predicate calculus, cybernetics and coding theory. Prerequisites: CS 140 and 300, and Math. 331Q, with grades of C or better. A 34 420 0 0704

481. **Cooperative Education in Computer Science.** (1-3). The goal of this course is to prepare the student for entry into an industrial placement that integrates theory with a practical and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty
485. Debugging Techniques. (2). A study of the methods of locating errors in computer programs. Topics include code verification, test data selection, compiler options and debugging. Credit will be given for only one of CS 201 through 216 with grades of C or better. A 34 485 1 0705

497. Special Topics. (1-3). Special topics of current interest in computer science. Prerequisite: departmental consent. A 34 497 0 0701

498. Individual Projects. (2-3). Repeatable for a total of six hours of credit. Graded S/U only. Prerequisite: departmental consent. A 34 498 4 0701

Courses for Graduate/Undergraduate Credit

501. Numerical Programming Techniques. (3). 2R; 2L. A study of the programming techniques used to solve the problems of nonlinear equations, interpolation, and integrate and solve systems of linear equations. The implications of finite precision floating point arithmetic are discussed. Techniques for initial and boundary value problems in ordinary differential equations are also covered. Selected algorithms are implemented on the computer. Prerequisites: Math. 243 and CS 300 with grades of C or better. A 34 501 1 0704

510. Programming Languages. (3). Formal definition of programming languages, including syntax and semantics. Also examined are underlying properties of algorithmic languages, including scope of declarations, storage allocation, grouping of statements, binding time of constituents, subroutines and tasks. Prerequisite: CS 300 with a grade of C or better. A 34 510 0 0704

512. Systems Programming. (3). 2R; 2L. A study of system software including file systems, assemblers, disassemblers, microprocessors, link editors, loaders, language translators and debuggers. Practical experience in building system software is obtained through laboratory exercises. Prerequisite: CS 405 or equivalent with a C or better grade. A 34 512 1 0704

515. Compiler/Interpreter Techniques. (3). 2R; 2L. Review of programming language structures, translation and implementation. Compilations of simple expressions and statements. Overall design and organization of compilers and interpreters, including lexical and syntactic scanner, construction of symbol tables, object code generation, diagnostic error messages and optimization techniques. Prerequisite: CS 510. A 34 515 1 0704

527. The History of Computing. (3). Cross-listed as Hist. 527. This course is a study of the development of automatic computing machines and their mechanisms of control and programming. Topics discussed include mechanical computers, electronic digital computers and both mechanical and electronic computers, as well as the conceptual origins of computing. A 34 527 0 0701

540-541. Operating Systems and Architecture I and II. (3-3). Design of computer systems emphasizing software and computer architecture. Batch processing systems and their operating characteristics are reviewed, including addressing techniques, memory management, file design and systems accounting. Concurrent processes are discussed for both hardware and software, including topics such as I/O devices, concurrent execution, resource allocation, location, asynchronous processes, paging, recovery, protection and synchronization in multithreading and multiprocessor systems. Methods for designing and implementing computer system implementations are considered. Prerequisites for 540: CS 300 and 340 with grades of C or better; for 541: CS 540. A 34 540 0 0702; A 34 541 0 0702

560. Data Structures. (3). The formal specification of data structures. Linear lists and array-oriented list structures are studied and representation via trees and graphs and searching and sorting techniques are included. Prerequisite: CS 405 and Math 3310 with a grade of C or better in each. A 34 560 0 0702

565. Data Base Design. (3). Principles of data base design and management for computer information systems. Several logical organization and file design techniques are examined, and the reliability and integrity of data are also discussed. Prerequisite: CS 405. A 34 565 0 0702

574. Artificial Intelligence and Philosophy. (3). Cross-listed as Phil. 574. Transfer of ideas between artificial intelligence and philosophical concepts and techniques of artificial intelligence and their application in philosophy (search, heuristic, problem solving, knowledge representation, learning, discovering); sources of insight for artificial intelligence in different branches of philosophy. The analogy between minds and computers "cognition is a computation and the mind is a computer" is contrasted with "there are mental features not accessible to computation." The relevance of Goden's theorem and other results in the domain of computability are discussed. Prerequisites: at least one undergraduate course in computer science or philosophy. Math 243; five hours toward the major in any of the physical or biological sciences or departmental consent. A grade of C or better in each prerequisite. A 34 574 0 0701

580. Introduction to Software Engineering. (3). 2R; 2L. An introduction to the body of knowledge, presently available tools and current theories and conjectures regarding the principles and practice of software development. These topics are studied from several different viewpoints, ranging from the individual program statement to a large programming project. Prerequisites: CS 340 and 405 and three CS courses numbered 201 through 216. A 34 580 1 0704

611. Ada and Software Engineering. (3). 2R; 2L. An in-depth study of the programming language, Ada with an emphasis on understanding the software engineering principles on which its design is based. Focus is on the novel features of the language that offers such packages, generics, separate compilation and mutually exclusive structures. Laboratory sessions provide hands-on programming experience. Knowledge of English is an absolute requirement of the language. Prerequisite: CS 510. A 34 611 1 7074

640. VLSI Systems Design. (3). 2R; 2L. Topics include an introduction to VLSI system, MOS switch, integrated system fabrication and control flow in systematic structures, implementing integrated system design, overview of an LSI computer system, development of design of system controllers and simultaneous timing and highly concurrent systems. Prerequisite: CS 340 or equivalent. A 34 640 1 0702

641. Small Systems Architecture. (3). A course on the architecture of small microcomputers and on how small computers are used to construct larger ones. Includes general concepts of computer architecture, particularly the differences between large computers and small computers and the special features of small computers, such as horizontal and vertical micro-programming, use of display terminals, cassettes, tapes and disc; networks of small computers, and trends in computer use and design. Prerequisite: CS 340 or EE 594. A 34 641 0 0702

644. On-Line Computer Systems. (3). Characteristics of dedicated, business-oriented computer systems, as contrasted with general purpose, time-sharing systems. Study focuses on hardware requirements, design methodologies for application programs and data bases and characteristics of typical computer output systems. Prerequisites: CS 340 and 405 and Math. 3310 or equivalent. A 34 644 0 0704

675. Numerical Methods. (3). A continuation of CS 501 emphasizing the theoretical aspects of the algorithms treated. The course includes selected advanced topics, approximation and numerical solution of partial differential equations. Prerequisites: CS 501 and Math. 511. A 34 675 0 0704

684. Applications Systems Analysis. (3). A study of the methods for analyzing business systems problems and other large-scale applications problems. At the crossroads of computer technology, management science and human relations, systems analysis is the keystone in the education of the well-trained computer analyst. Topics include systems design, cost benefit, data base, distributed processing, project management and documentation. Prerequisite: CS 501, 684. Programming experience with departmental consent. A 34 684 0 0705

697. Selected Topics. (1-3). Selected topics of current interest. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 34 697 0 0701

720. Theoretical Foundations of Computer and Information Sciences. (3). This course provides an advanced level introduction to the theoretical bases of computer science and related concepts in information science. Computer science theory includes the various models of finite state machines, both deterministic and nondeterministic, plus the concepts of decidability, computability and formal language theory. Topics in information science include basic coding theory, cybernetics and models of the human brain and their relevance to machine intelligence. Prerequisite: CS 420 or graduate standing. A 34 720 0 0701

742. Computer Communication Networks. (3). 2R; 2L. Introduction to computer communication networks, including topics such as network protocols, data transmission, network topology, network modeling and analysis, delay analysis for networks of M/M/1 queues, network architecture, protocols, design issues for the layers and the ISO reference model, and models for present computer communication networks. Prerequisite: CS 340 or equivalent. A 34 742 1 0701

750. Workshop in Computer Science. (1-5). Short-term courses with special focus on
Introduction to computer science concepts. Repeatable for credit. Prerequisite: departmental consent. A 34 750 2 0701

771. Artificial Intelligence, (3). Heuristic versus algorithmic methods, principles of heuristic approach and cognitive processes. Also covered are objectives and methods of artificial intelligence research and simulation of cognitive behavior. A survey of appropriate examples from various areas of artificial intelligence research is included. Prerequisite: CSci 300. A 34 771 0 0704

773. Pattern Recognition, (3). An introduction to pattern recognition and image processing, including clustering algorithms, cluster validation, feature extraction, classification design, Bayes decision theory, parameter estimation, discriminant functions, syntactic pattern recognition, image enhancement, image registration, FFT, texture and application in various fields. Prerequisites: CSci 212 and 300 and Math. 211 or 511, 243 and 331Q with grades of C or better. Stat. 370 recommended but not required. A 34 773 0 0701

776. Expert Systems, (3). Planning, construction and application of expert systems. Major aspects of expert systems are discussed and illustrated with various examples, including data representation, knowledge bases, inference engines, user interfaces, explanation facilities, metadating and dealing with uncertainty. Basics of a production system language are introduced. Prerequisite: CSci 580 or instructor's consent. A 34 776 0 0709

798. Individual Projects, (1-3). Allows beginning graduate students and mature undergraduates to pursue individual projects of current interest in computer science. Graded S/U only. Prerequisite: departmental consent. A 34 798 3 0701

Courses for Graduate Students Only


821. Analysis of Algorithms, (3). Introduction to the analysis of algorithms intended to analyze both specific algorithms and classes of algorithms. Popular models, including Knuth's Mix and random access machine, are covered. Specific techniques, such as divide-and-conquer, recurrence equations and dynamic programming, are studied. Applications to set operations, hashing, graph searching, transitive closure and partitioning are analyzed. Prerequisites: CS 420 of graduate standing. A 34 821 0 0702

841. Advanced Computer Architecture, (3). A study of advanced topics in computer architecture like parallel processing, stack architectures, computer performance evaluation and reliability of computing systems. Architectures of systems belonging to the IBM, CDC and Burroughs families of computers are studied. Prerequisite: CS 540. A 34 841 0 0702

842. Operating Systems Concepts, (3). A comprehensive treatment of the design of executive software for systems ranging from simple multiprogramming to multiprocessor and network environments. Concepts of concurrent and parallel processes, related problems of inter- and inter-system communication, synchronization and integrity are addressed. General principles of resource management as related single-processor and multiprocess environments are presented. Prerequisite: CS 540 or EE 684. A 34 842 0 0702

843. Distributed Computing Systems, (3). A study of hardware and software features of on-line multiple computer systems with an emphasis on network design and telecommunication software. Topics include distributed data bases, interprocessor communication and centralization versus distribution. Study of the use of microcomputers in representative configurations is also included. Prerequisite: CS 540 or 641 or EE 684. A 34 843 0 0702

862. Principles of Data Base Design, (3). An advanced treatment of the principles of data base design. The following issues are addressed: logical design, including relational model; physical design, including new technological advances in implementing very large data bases; security and integrity of data; and distributions. Data base management systems. Prerequisites: CS 540. A 34 862 0 0702

872. Machine Learning and Discovery, (3). An advanced study of computer programs that learn, improve performance and make discoveries. Topics include objectives, methods and research paradigms for such systems; a survey of existing methods and applications; and recent developments: theoretical principles for learning and discovery systems; computational theories of learning processes and cognitive models of human learning concept, and theory formation; and use of analogy in learning. The course includes participation in a group project such as developing a computer learning system. Prerequisites: CS 771 or 775 or 214 and 574, or CS 214 and 773. A 34 872 0 0709

873. Computer Vision, (3). An introduction to computer vision, a rapidly growing subfield of artificial intelligence. The basic topic is the understanding or description of images by a computer or robot. Two-dimensional Fourier analysis, scene matching and understanding, texture, motion, shape recognition, relational image structure and human perception are covered. Prerequisites: CS 773 or instructor's consent. A 34 873 0 0709

874. Simulation and Modeling, (3). An up-to-date treatment of the important aspects of a simulation study, including data generation and testing, construction and verification of simulated models. An introduction to high-level programming languages and simulation with GPSS. Prerequisites: CS 300 or AE 327, Math 344 and Stat. 571 or IE 354. A 34 874 0 0799

881. Software Specification and Design, (3). Course is a detailed presentation of the techniques and tools available for the specification of software requirements and their translation into a design. Topics include formal specification and design methods such as structured analysis, object-oriented design and JSD. Prerequisite: CS 580. A 34 881 0 0704

882. Software Testing and Reliability, (3). A study of the ingredients of software quality assurance and their interactions, characteristics of software quality and methods of measurement, software reliability models and program testing and tools for software development and testing. Methods for proving program correctness and comparison. Prerequisite: CS 580. A 34 882 0 0705

886. Software Project Management, (3). Course presents the knowledge, techniques and tools necessary to manage the development of software products. Topics center on ensuring quality in the product, productivity in the team and reducing risk in the project life cycle. Course may not be repeated by students who have taken it under previous numbers. Prerequisite: CS 580. A 34 886 0 0799

889. Topics in Software Engineering, (3). An in-depth study of one of more topics in software engineering, such as configuration management, quality assurance, formal specification, or real-time software development. Actual topics vary with instructor's area of expertise. May be repeated for credit with different topics, but topics taken under previous course numbers may not be repeated. Prerequisite: CS 580. A 34 889 0 0799

900. Graduate Seminar, (2). A series of seminars on topics of current research interest in computer science. Participants are required to present one or two seminars on topic(s) to be selected with the approval of their graduate advisors. Repeatable up to four credit hours. Graded S/U only. Prerequisite: departmental consent. A 34 890 9 0701

919. Practicum, (3). An intensive applied learning experience, involving the analysis and solution of a significant practical problem and appropriate documentation of the work done. Students are required to participate in a department seminar where their practicum experiences are shared with other students and faculty. Graded S/U only. Prerequisite: departmental consent. A 34 891 2 0701

982. Thesis, (1-6). May be repeated for up to six hours of credit. Graded S/U only. Prerequisite: departmental consent. A 34 892 4 0701

993. Individual Reading, (1-5). Graded S/U only. Prerequisite: departmental consent. A 34 893 3 0701

888. Special Topics, (2-3). Topics of current interest to advanced students of computer science. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 34 896 4 0701

Economics

Major: The economics major in Fairmont College of Liberal Arts and Sciences consists of a minimum of 31 hours and a maximum of 41 hours. Econ. 201Q, 202Q, 231, 301, 302 and 340 are required along with Math. 111 and 144. Math. 112 may be accepted in lieu of Math. 111. Students who plan to con-
continue their study of economics in a PhD program should consult an adviser in the Department of Economics and, in most cases, include additional mathematics courses.

Minor. A minor in economics is available to any student whose major field or area of emphasis is outside of economics. A minor consists of 15 hours exclusive of Econ. 100, 101G, 200G and 231. Econ. 201Q and 202Q, or the equivalents, must be included.

Teaching of Economics. Because Kansas Department of Education regulations governing the certification of secondary economics teachers are very specific and contain requirements beyond the economics major, students planning to be teachers of economics should contact a secondary social studies adviser in the College of Education for program planning.

Courses. Economics courses are listed in the College of Business Administration section of the Catalog.

**English Language and Literature**

**English Language and Literature Major.** A major consists of 33 hours, three of which may, with departmental consent, be taken in a cognate subject (such as foreign literature, theatre, etc.) offered in a course by another department. The course work must be distributed as follows:

I. Basic Requirements (12 hours)
   * Eng. 272Q, 310*, 320Q*, or 330Q, 274 or 315

II. Major Requirements (21 hours with at least 15 upper-division) from Eng.

III. Literature (27 hours)
   * English 315 and 665, 667 or 274
   * Composition (6 hours)
     * English 680 and 210, 685Q or any course in the creative writing sequence
   * Literature (27 hours)
     * Foundations: English 272Q*, 310*, 320Q* or 330Q* and 340Q
     * British and American literary history: Eng. 503, 504 and one course in British literature
     * Nonwestern and/or minority literature: Eng. 342, 365 or 672
     * Literature for adolescents: IS 616
   * Other (6 hours)
     * Class: English 510-511
     * Speech 500
   * Electives (6 hours)

Six hours in English, in certifiable minor or in approved area of competency to be selected in consultation with an English education adviser

**Composition**

**Noncredit Course**

011. Syntax, Logic and Organization. (3). Offered Cr/NCr only. Designed for students who wish to review the basic elements of written English, this course combines lecture, small group discussion and individual tutoring. For students whose ACT scores are '16 or below on ACT-English or whose placement test scores do not qualify them for Eng. 101. Credit cannot be applied for graduation. A 14 101 0 1501

**Lower-Division Courses**

101. College English I. (3). A course emphasizing reading, listening, writing and thinking abilities, as well as library skills. Prerequisite: qualifying score on ACT or placement exam. A 14 101 0 1501

102. College English II. (3). A course emphasizing critical reading, research and argumentation. Eng. 102 should be taken sequentially with Eng. 101 in the freshman year. Prerequisite: Eng. 101, with a grade of "C" or better. A 14 102 0 1561

103. Reading, Thinking and Writing. (3). A third semester of English composition. Writing assignments are based on literature read during the semester. Reading material varies from instructor to instructor, but generally follows a specific theme. Prerequisites: Eng. 101 and 102, A 14 103 0 1561

150. Workshop. (1-4). Repeatable for credit. Materials vary according to the needs of students. A 14 150 2 1502

210. Composition: Business, Professional and Technical Writing. (3). Prerequisites: Eng. 101 and 102 or instructor's consent. A 14 210 0 0601

**Upper-Division Course**

481. Cooperative Education. (1-3). This course is designed to provide the student with practical experience, under academic supervision, that complements and enhances the student's academic program. Individual programs must be formulated in consultation with appropriate faculty sponsors and approved by departmental consent. Offered Cr/NCr only. A 14 481 0 1507

**Courses for Graduate/Undergraduate Credit**

510. Peer Tutoring. (2). Explores strategies for using peer tutoring and collaborative learning to teach composition. Special emphasis is given to diagnosis and evaluation of writing abilities, conducting individual and group conferences, the writing process, the basic elements of Standard Written English and theories of second language and dialect acquisition. Concurrent enrollment in Eng. 511 recommended. This course or equivalent preparation required of those intending to serve as tutors in the writing lab. Prerequisite: instructor's consent. A 14 510 0 1507

511. Tutorial Practicum. (1). Required of all students intending to serve as tutors in the writing lab. This course provides supervised tutoring experience. Prerequisite: previous or concurrent enrollment in Eng. 510. A 14 5112 0 1507

**Creative Writing**

A student planning to major in creative writing must complete Eng. 101 and 102 and thereafter complete 33 hours of course work in English, including the following courses:

I. Basic Requirements (12 hours)
   * Eng. 272Q*, 310*, 320Q*, or 330Q*, 274 or 315

II. Major Requirements (3 hours)
   * Eng. 265Q (to be completed with a grade of "B" or better or receive departmental consent for further creative writing course work)

III. Skill Requirements (at least 12 hours)
   * A 2,500 grade point average in English courses will be required for the major, but the sequence is available and consists of 15 hours of course work in creative writing (Eng. 285Q plus 12 hours of skill courses just listed).

Teaching

Students must file a declaration of English teaching major with an assigned English education adviser at the time they apply to the teacher education program. A 2,500 grade point average in English is required of all majors applying for admission to the professional semester of student teaching in secondary school English.

Major for Students Planning to Teach English in Secondary Schools. The teaching major in either Fairmount College or the College of Education is 51 hours distributed as follows:

I. Language (6 hours)
   * English 315 and 665, 667 or 274

II. Composition (6 hours)
   * English 680 and 210, 685Q or any course in the creative writing sequence

III. Literature (27 hours)
   * Foundations: English 272Q*, 310*, 320Q* or 330Q* and 340Q
   * British and American literary history: Eng. 503, 504 and one course in British literature
   * Nonwestern and/or minority literature: Eng. 342, 365 or 672
   * Literature for adolescents: IS 616

IV. Other (6 hours)
   * English 510-511
   * Speech 500

Electives (6 hours)

Six hours in English, in certifiable minor or in approved area of competency to be selected in consultation with an English education adviser

* Prerequisites for all other English courses unless special permission is granted.
685. Advanced Composition. (3). This course explores the relationships among contemporary issues, problem-solving and communication. The first objective of the course is to engage students in interdisciplinary inquiry into some aspect of social policy, inquiry which asks students to apply the analytical approaches of their major fields to current issues of broad, general interest. The second objective of the course is to develop students’ abilities to communicate their knowledge and assumptions about this issue to a variety of audiences and for a variety of purposes. Prerequisites: Eng. 101 and 102 and upper-division standing. A 14 685Q 0 1501

760. Advanced Theory and Practice in Composition. (3). Designed for teaching assistants in English. Review of theories of rhetoric, recent research in composition and new promising developments in composition programs in schools and colleges. Students are given practice in advanced writing problems, situations and techniques and may propose projects for further special study. A 14 760 0 1501

Creative Writing

Lower-Division Course

285Q. Introduction to Creative Writing. (3). An introductory course for students interested in the techniques and practice of imaginative writing in its varied forms. This course may be used to fulfill the general education requirement only as an elective (studio and performance). Prerequisites: Eng. 101 and 102. A 14 285Q 0 1501

Upper-Division Courses

301. Creative Writing: Prose Fiction. (3). Repeatable for credit. Prerequisite: Eng. 285Q with a grade of “B” or better. A 14 301 0 1507

303. Creative Writing: Poetry. (3). Repeatable for credit. Prerequisite: Eng. 285Q with a grade of “B” or better. A 14 303 0 1507

401. Advanced Creative Writing: Prose Fiction. (3). An advanced course for students developing the skilled practice of writing, rewriting, revising and polishing prose fiction. Prerequisites: Eng. 285Q and at least three hours of Eng. 301. A 14 401 0 1507

403. Advanced Creative Writing: Poetry. (3). An advanced course for students developing the skilled practice of writing, rewriting and polishing poetry. Prerequisites: Eng. 285Q and at least three hours of Eng. 303. A 14 403 0 1507

Courses for Graduate Undergraduate Credit

517-518. Playwriting I and II. (3; 3). Cross-listed as Speech 516 and 517. Not repeatable for credit. A 14 517 0 1507; A 14 518 0 1507

585. Writer’s Tutorial: Prose Fiction. (3). Tutorial work in creative writing in prose fiction with visiting writer. Repeatable for credit. Prerequisite: consent of creative writing director. A 14 585 0 1507

586. Writer’s Tutorial: Poetry. (3). Tutorial work in creative writing in poetry with visiting writer. Repeatable for credit. Prerequisite: consent of creative writing director. A 14 586 0 1507

604. Writing Seminar: Fiction. (3). An advanced course designed primarily for the nontraditional student, both graduate and undergraduate, who desires intensive experience in the conceptualization and writing of prose fiction. Not credited toward the MFA degree. Prerequisites: six hours of undergraduate creative writing or instructor consent based on submitted manuscript. Departmental consent required for undergraduate enrollment. A 14 604 9 1507

605. Writing Seminar: Poetry. (3). An advanced course designed primarily for the nontraditional student, both graduate and undergraduate, who desires intensive experience in the conceptualization and writing of poetry. Not credited toward the MFA degree. Prerequisites: six hours of undergraduate creative writing or instructor consent based on submitted manuscript. Departmental consent required for undergraduate enrollment. A 14 605 9 1507

Courses for Graduate Students Only

801. Creative Writing: Fiction. (3). Advanced work in creative writing. Repeatable for credit. Prerequisite: consent of creative writing director. A 14 801 9 1507

805. Creative Writing: Poetry. (3). Advanced work in the writing of poetry. Repeatable for credit. Prerequisite: consent of creative writing director. A 14 805 9 1507

875. Master of Fine Arts Essay. (1-6). A 14 875 4 1507

880. Writer’s Tutorial: Fiction. (3). SU/grade only. Tutorial work in creative writing in prose fiction with visiting writer. Prerequisite: consent of creative writing director. A 14 880 9 1507

881. Writer’s Tutorial: Poetry. (3). SU/grade only. Tutorial work in creative writing in poetry with visiting writer. Prerequisite: consent of creative writing director. A 14 881 9 1507

Linguistics

Upper-Division Course

315. Introduction to English Linguistics. (3). Cross-listed as Ling. 315. Introduction to linguistic principles, including phonological and grammatical concepts. A 14 315 0 1505

Courses for Graduate Undergraduate Credit

665. History of the English Language. (3). Cross-listed as Ling. 665. Linguistic and cultural investigation of the development of English. Prerequisite: Eng. 315 or departmental consent. A 14 665 0 1505

667. English Syntax. (3). Cross-listed as Ling. 667 and Anthro. 667. A study of the basic principles of English syntax, covering the major facts of English sentence construction and relating them to linguistic theory. Prerequisite: Eng. 315 or equivalent or departmental consent. A 14 667 0 1505

672. Studies in Language Variety. (3). Cross-listed as Ling. 672. An introduction to the study of language variety with special attention to regional and social dialect in America and methods of studying it. May be repeated for credit when content varies. Prerequisite: Eng. 315 or departmental consent. A 14 672 0 1505

727. Teaching English as a Second Language. (2-3). Cross-listed as Ling. 727 and CDS 727. Current methods of teaching English to nonnative speakers are discussed. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use. D 12 727 0 1502

730. Graduate Studies in Linguistics. (3). Cross-listed as Ling. 730. Selected topics in theories of language and methods of linguistic study. With departmental consent, the course is repeatable for credit. A 14 730 0 1505

Literature

Lower-Division Courses

220G. The Literary Heritage: English Masterpieces. (3). This course is intended to introduce the lower-division general student selections from the English masterpieces that constitute the literary heritage. A 14 220G 0 1502

223. Books and Ideas. (3). Reading, discussing and some writing about literature from all periods and cultures (fiction, poetry, drama and essays). Designed especially for non-English majors; not credited toward an English major or minor. A 14 223 0 1502

230G. Exploring Literature. (3). Perceptive reading of literature in its major traditional periods and in its various genres (especially fiction, drama and poetry). The objective is to deepen the appreciation and understanding of literature: what it is, what it does and how it does it. Readings are selected with careful attention to the needs and interests of non-English majors and a cultural rather than a technical approach is employed. A 14 230G 0 1502

232G. Themes in American Literature. (3). Instruction in perceptive reading through the study of representative works in American fiction, poetry, drama and the essay. Emphasis is on understanding and appreciation of central themes and dominant ideas. Multimedia presentations, which are closely correlated to the representative works being studied, amplify the scope and range of literature per se. Media include films, readings and recordings. A 14 232G 0 1502

250Q. Modern American Writers. (3). A survey of important works by American writers since World War I. A 14 250Q 0 1502

254Q. Modern British Literature. (3). A survey of important works by major writers of the British Isles, including Ireland, in the 20th century. A 14 254Q 0 1502

262Q. American Writers of the 19th Century. (3). A course devoted to the study of the
272Q. Origins of the Western Literary Tradition. (3). A study of the literary forms that first appeared in classical and Biblical literature and reappear in the English literary tradition. Readings from mythology, the classics, and selected books of the Bible. A 14 272Q 0 1502

274. The Language of Literature. (3). An examination of the principles and problems of literary interpretation that are especially related to language structure. A 14 274 0 1502

275Q. Studies in Popular Literature. (3). Cross-listed as Amer. Stud. 275Q. A course devoted to study of various forms of popular literature (e.g., revolutionary literature, science fiction, western fiction, detective novel) with an emphasis both on the literary merits of the work and the way it reflects popular tastes and values. Repeatable for credit with change of content. A 14 275Q 0 1503

Upper-Division Courses

307G. Narrative in Literature and Film. (3). 2R; 2L. A comparative aesthetic analysis of the art of narration in literature and especially in film. A 14 307G 0 1501

310. The Nature of Poetry. (3). Designed to acquaint the student with the variety of poetic forms and techniques. Contributions of culture, history and poetic theory are noted as background to the works under study, but the course primarily emphasizes the characteristics of poetry as a literary communication. A 14 310 0 1502

320Q. The Nature of Drama. (3). A course designed to acquaint the student with drama as a form of literary expression. While introducing the student to a variety of plays drawn from different cultures and historical periods, the course focuses primarily on the characteristics of drama, giving some attention to dramatic history and theory. A 14 320Q 0 1502

330Q. The Nature of Fiction. (3). A course designed to acquaint the student with narrative fiction in a variety of forms: the short story, short novel and novel. In covering works of fiction drawn from different cultures and historical periods, the course focuses primarily on the characteristics of fiction, giving some attention to historical development and to theories of fiction. A 14 330Q 0 1502

340Q. Major Plays of Shakespeare. (3). Designed for students who wish to study the best work of Shakespeare's career in one semester. Students who take this course may take Eng. 515 once for credit. A 14 340Q 0 1502

342. American Folklore. (3). Cross-listed as Amer. Stud. 342. Survey of the types and functions of unwritten traditional materials in the United States, including beliefs, tales, jokes, folk music, customs and crafts, including some ethnic varieties; the unwritten materials that form the uniqueness of American culture. A 14 342 0 1502

345. Studies in Comparative Literature. (3). Study of representative works in the western and ancient Near Eastern literary traditions with emphasis on the contrasting relations between themes, types and structures. Readings may be drawn from one or several periods and may include works of fiction, drama, poetry, epic, romance, satire and other types. A 14 345 0 1502

385. Afro-American Literature. (3). A survey course designed to acquaint the student with the most significant Afro-American writers from the 1700s to the present. Lectures cover early slave narratives and early slave poetry to the Harlem Renaissance; student reading, discussion and writing begin with the Harlem Renaissance and end with the 1970s. Prerequisites: Eng. 101 and 102. A 14 385 0 1502

400G. The Literary Imagination: Epic, Romance, Tragedy, Comedy. (3). A course designed to acquaint the general student with the major modes that have shaped the Western literary tradition. It focuses on the tendency of the imagination to construct different kinds of fictions that satisfy the human demand for literary pleasures—the pleasure that derives from the experience of love and war on a heroic scale (epic and romance), of pain and suffering (tragedy) and of human folly (comedy and satire). The course also acquaints students with the nature of literary inquiry by approaching works from a variety of critical perspectives. A 14 400G 0 1502

450. Independent Reading. (1-3). Designed for majors and nonmajors who wish to pursue special reading or research projects in areas not normally covered in course work. Repeatable for credit. Prerequisite: departmental consent. A 14 450 3 1502

Courses for Graduate/Undergraduate Credit

503. Studies in American Literature I. (3). A course in the major fiction, poetry and nonfiction prose of the classic American period: the American novel, the short story, the nonfiction prose of the classic American period, the short story, and nonfiction prose of the classic American period. The course is centered on the major modes that have shaped the Western literary tradition. It focuses on the tendency of the imagination to construct different kinds of fictions that satisfy the human demand for literary pleasures—pleasure that derives from the experience of love and war on a heroic scale (epic and romance), of pain and suffering (tragedy) and of human folly (comedy and satire). The course also acquaints students with the nature of literary inquiry by approaching works from a variety of critical perspectives. A 14 503 0 1502

504. Studies in American Literature II. (3). Fiction, poetry and drama of the late 19th century to after World War II. Readings may also include literary criticism and other types of nonfiction prose. Discussions cover theoretical, critical and literary forms inspired by the social and cultural movements and events of the first half of the 20th century. A 14 504 0 1502

512. Studies in Fiction. (3). Subjects to be announced each semester. Repeatable for credit. A 14 512 0 1502

513. Studies in Poetry. (3). Subjects to be announced each semester. Repeatable for credit. A 14 513 0 1502

514. Studies in Drama. (3). Subjects to be announced each semester. Repeatable for credit. A 14 514 0 1502

515. Studies in Shakespeare. (3). Subjects to be announced each semester. Repeatable for credit, except by students who take Eng. 340Q. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 515 0 1502

521. Readings in Medieval Literature. (3). English and continental literature, 12th to 15th century. Chaucer, Malory, the Pearl Poet, medieval lyric, drama, epic, romance and saga. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 521 0 1502

522. Readings in Renaissance Literature. (3). Sidney, Spenser, Shakespeare (poetry), Donne, Jonson, Milton and their contemporaries. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 522 0 1502

524. Readings in Restoration and 18th Century Literature. (3). Swift, Pope, Johnson and their contemporaries. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 524 0 1502

526. Readings in Romantic Literature. (3). Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 526 0 1502

527. Readings in Victorian Literature. (3). Keats to Yeats studied in relation to political events and the social, scientific and religious thought of the age. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 527 0 1502

532. Studies in Modern British Literature (to 1950). (3). English and Irish literature of the first half of the 20th century. Subjects to be announced each semester. Repeatable for credit. A 14 532 0 1502

533. Studies in Contemporary Literature. (3). Modern literature, primarily British and American, since 1950. Subjects to be announced each semester. Repeatable for credit. A 14 533 0 1502

535. Images of Women in Literature. (3). Cross-listed as WS 535. Women characters as stereotypes, archetypes and fully developed human beings in the works of various authors. A 14 535 0 1502

536. Writing by Women. (3). Cross-listed as WS 536. The work of major modern women writers, both British and American, in poetry and prose. A 14 536 0 1502

580. Special Studies. (1-3). Topic selected and announced by the individual instructor. Repeatable for credit. Prerequisite: departmental consent. A 14 580 3 1502

610. Old English. (3). Cross-listed as Ling. 610. A 14 610 0 1502

750. Workshop. (2-4). Repeatable for credit. A 14 750 2 1502

Courses for Graduate Students Only

800. Introduction to Graduate Study in English. (3). Especially designed to prepare students to perform effectively in graduate classes in English. The course is concerned with: (1) intellectual history and (2) terminology, both technical and historical; (3) various approaches to the study of literature, such as intrinsic analysis of a literary work, the relationships of biography to literary study.
and the relevance of other disciplines, such as psychology, to literature; and (4) the writing of interpretative and research essays. Throughout the semester a balance between criticism and research is maintained. A 14 900 9 1502

817. Graduate Readings in 20th Century British Literature. (3). Yeats, Joyce, Lawrence, Auden, Spender and their contemporaries. A 14 817 9 1502

821. Graduate Readings in American Literature I. (3). From the beginnings to 1870 with emphasis on Emerson, Thoreau, Hawthorne, Melville, Whitman and Dickinson. A 14 821 9 1502

822. Graduate Readings in American Literature II. (3). From 1870 to 1920 with emphasis on James, Twain, Crane, Dreiser, Robinson and Frost. A 14 822 9 1502

823. Graduate Readings in American Literature III. (3). From 1920 to 1970, including Eliot, Stevens, Hemingway, Faulkner and their contemporaries. A 14 823 9 1502

825. Theories of Rhetoric: Classical. (3). Cross-listed as Speech 830. An intensive study of the rhetorical theories of classical writers from 466 B.C. to the decline of Roman oratory. Principal emphasis is on Isocrates, Plato, Aristotle, Quintilian, Cicero and Longinus. A 14 825 9 1502

826. Theories of Rhetoric: Renaissance to Early Modern. (3). Cross-listed as Speech 831. A study of the emerging patterns of rhetoric from the Second Sophistic to modern times. Analysis is made of the rhetorical systems associated with such figures as Augustine, Fenelon, Bulwer, Sheridan, Steele, Rush, John Quincy Adams, Blair, Campbell and Whately. A 14 826 9 1502

830. Graduate Studies in Drama. (3). Selected topics in the history and nature of dramatic literature. A 14 830 9 1502

832. Graduate Studies in Fiction. (3). Selected topics in the development of the form and content of prose fiction. A 14 832 9 1502

834. Graduate Studies in Poetry. (3). Selected topics in the form, techniques and history of poetry. A 14 834 9 1502

840. Graduate Studies in Criticism. (3). Selected topics in the theory and practice for literary criticism. A 14 840 9 1502

845. Graduate Studies in a Major Author. (3). Careful study of the works of a major author with readings in secondary sources, reports, discussions and papers. Repeatable for credit with change of content. A 14 845 9 1502

855. Directed Reading. (2-3). Designed for graduate students who want to pursue special research in areas not normally covered in course work. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 14 855 3 1502

860. Graduate Seminar in Special Topics. (3). Intensive study of selected texts, writers or literary problems. Seminar discussions, reports and research projects. Repeatable for credit with departmental consent. A 14 860 9 1502

870. Master's Essay. (2-3). A 14 870 4 1502

875. MFA Essay. (3-5). A 14 875 4 1502

Film Studies

The film studies minor at The Wichita State University is designed to provide students interested in film and the visual media with a focused sense of the possibilities, limitations and actual accomplishments of the visual media as they have, in fact, developed. The minor also offers opportunities to study film as an art form and to gain experience in media production. The film studies minor consists of 18 semester hours from the courses listed below, selected with the approval of the coordinator of film studies.

The Wichita State University does not require a minimum period of time should have completed geometry, trigonometry and two years of algebra in high school. Chemistry and physics also are required in high school.

Geology Major. A major with the BA requires a minimum of 33 hours in geology, including the following:

1. Geol. 111Q, General Geology
2. Geol. 312, Historical Geology; 320, Mineralogy; and 324, Petrology
3. Geol. 340, Field Mapping; 544, Structural Geology; 552, Physical Stratigraphy; and 570, Biogeology
4. Nine additional hours of upper-division geology electives or other sciences with prior written approval of the department.

Required supporting sciences for the BA are:
1. Any approved course in biological sciences
2. Any one of the following groups:
   a. Chem. 112Q or 312Q, and Physics 213Q and 214Q (or 213Q, 312Q, and 314Q, 316Q)
   b. Chem. 111Q and 112Q (or 123Q and 124Q) or Physics 213Q and 312Q, 315Q
4. CS 200Q and 201 (or an approved substitute)

A major with the BS requires a minimum of 45 hours in geology, including the following:

1. Geol. 111Q, General Geology
2. Geol. 312, Historical Geology; 320, Mineralogy; and 324, Petrology
3. Geol. 526, Sedimentary Geology; 540, Field Mapping; 544, Structural Geology; 552, Physical Stratigraphy; 560, Geomorphology; 570, Biogeology; and 581, Numerical Geology
4. Geol. 640, Field Geology
5. An approved geology course that includes either Geol. 620, Geochemistry; 650, Geochydrology; 660, Geophysics; 680, Economic Geology; or 682, Petroleum Geology
6. One additional course from 500-level courses and above.

Required supporting sciences for the BS degree are:
1. Any approved course in biological sciences
2. Chem. 112Q or 124Q or Physics 214Q (or 314Q, 316Q), to complete a one-year sequence each in chemistry and physics
3. Math. 344

BA candidates must meet the language requirements of Fairmont College of Liberal Arts and Sciences. BS candidates must elect one of the follow-
ing options: (a) ten hours of modern language, (b) an additional nine hours of computer science/mathematics or (c) an additional nine hours of statistics/computer science. Students electing options (b) or (c) must get prior written approval from the department chairperson for an approved program of courses. Election of one of the two options for language requirements will not alter existing departmental mathematics requirements.

Geology Minor. A minor in geology consists of at least 15 hours of geology including Geol. 111Q, General Geology.

Geography Minor. A minor in geography consists of at least 15 hours including Geog. 1250 or 201 or the equivalent.

It is suggested that students minoring in geology or geography consult with the department in selecting courses most appropriate to their major field of study.

Nonmajor and Nonminor Students. A nonmajor or nonminor student who wishes to achieve the broadest terminal background knowledge of geology is advised to take Geol. 111Q, General Geology, and 312, Historical Geology. Similar advice is offered to the potential major whose decision to elect geology is pending.

Geology

Lower-Division Courses

101Q. Science and Environment. (3). Study of the physical environment and environmental education—the educational process concerned with man's relationship with his natural and manmade surroundings; includes the relation of population, pollution, energy, resource depletion and allocation, conservation, transportation, technology, economic impact and urban and rural planning to the total human environment. A 16 101Q 0 1901

111Q. General Geology. (4). 3R; 2L. Lab fee. An overview of the earth, the concepts of its origin, composition, materials, structure, landforms and history; and natural processes operating to create man's physical environment. Field trips into the earth laboratory may be required. A 16 111Q 1 1914

150. Workshop. (1-4). Short-term courses with special focus on geological problems. Prerequisite: instructor's consent. A 16 150 2 1914

Upper-Division Courses

300G. Energy, Resources and Environment. (3). An examination of man's effects on his environment and man's dependence on earth resources in meeting his needs. The significance of availability and location of energy and mineral resources will be examined relative to the protection and improvement of man's environment and man's desires for a higher standard of living. Some emphasis on urban geology. A 16 300G 0 1914

302Q. Earth and Space Sciences. (3). 2R; 2L. Lab fee. A general survey of man's physical environment, including elements of geology, geography, meteorology, climatology, oceanography and astronomy. Field trips may be required. Not open to students who have taken Geol. 111Q or Geog. 201. A 16 302Q 1 1917

310. Oceanography. (3). Geologic origin of ocean basins and sea water; dynamics of waves, tides and currents; physical and chemical properties of sea water; diversity of life; tectonic evolution of the ocean floor. A 16 310 1 1914

312. Historical Geology. (3). 2R; 3L. Lab fee. A systematic review of earth history and its preservation in the rock record using field evidence for sequences of biological and tectonic events in selected areas. Also included are the origin and evolution of life. Field trips may be required. Prerequisite: Geol. 111Q or 302Q or equivalent. A 16 312 1 1914

320. Mineralogy. (3). 1R; 6L. Lab fee. Elementary crystallography. A study of the origin, composition and structure of the rock-forming minerals with laboratory emphasis on recognition of their optical properties, associations and identification. Field trips may be required. Prerequisite: Geol. 111Q. A 16 320 1 1914

324. Petrology. (3). 1R; 6L. Lab fee. The origin, distribution, occurrence, description and classifications of igneous, metamorphic and sedimentary rocks with laboratory emphasis on the identification of rocks. Field trips may be required. Prerequisite: Geol. 320. A 16 324 1 1914

410. Honors in Geology. (3). Senior thesis for general honors. The independent study project on a topic of the student's choice must be original research or creative work. Repeatable to a maximum of six credit hours. Prerequisite: acceptance by the Emory Lindquist Honors Program and departmental approval. A 16 410 4 1914

430. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area of geologic significance. The course is given during the fall semester. Subjects to be covered include soil surveys and hydrology. Also included are the interrelationships of geology, biology, ecology, and economics of the areas. Field trips may be required. Prerequisite: Geol. 111Q. A 16 430 1 1914

501. Raw Materials of Antiquity. (3). 2R; 2L. Lab fee. Nature of rocks, minerals and metallic ores used in prehistory and ancient times. Also included are weathering, sedimentation and soil-forming processes; elements of stratigraphy; geologic history of the Pleistocene and Recent Epochs; relative and absolute dating; mineralogy of clays and minerals and mining and metallurgical processes of antiquity. Prerequisite: Anthro. 501 or equivalent or instructor's consent. A 16 501 1 1914

520. Optical Mineralogy. (3). 1R; 6L. Lab fee. Optical properties of amorphous and crystalline materials in polarized light. Use of the petrographic microscope and the petrographic microscope in the study of thin sections. A 16 520 1 1914

526. Sedimentary Geology. (3). 2R; 3L. Lab fee. Origin, classification, primary structures and physicochemical processes controlling deposition of sedimentary rocks, especially carbonates. An analysis of modern and ancient sedimentary depositional environments is included. A 16 526 1 1914

540. Field Mapping Methods. (3). 9L. Lab fee. Field mapping methods with special reference to use of level, compass, barometer, altimeter and airphoto. Field trips are required. Prerequisite: Geol. 201 or Geol. 111Q. A 16 540 1 1914

544. Structural Geology. (3). 2R; 3L. Lab fee. Stress-strain theory and mechanics of rock deformation, description and analysis of secondary structural features in crustal rocks resulting from diastrophism, elements of global tectonics and laboratory solution of geologic problems in three dimensions and time. Field trips and field problems may be required. Prerequisites: Math. 112 or 123 and Geol. 552 (or taken concurrently) A 16 544 1 1914

552. Physical Stratigraphy. (3). 2R; 3L. Lab fee. Identification and interpretation of the genetic processes producing the landforms, including elements of quantitative geomorphology. Field trips are required at the option of the instructor. Prerequisite: Geol. 111Q. A 16 552 1 1914

560. Geomorphology. (3). 2R; 3L. Lab fee. Identification and interpretation of the genesis of landforms and a critical examination of processes producing the landforms, including elements of quantitative geomorphology. Field trips are required at the option of the instructor. Prerequisite: Geol. 560 or instructor's consent. A 16 560 2 1914

564. Map and Airphoto Interpretation. (3). 2R; 3L. Lab fee. Elements of map and aerial photograph composition; interpretation and application of maps and photos in geology, geography, urban planning, land-use inventory and engineering work. Remote-sensing methods are introduced. Field trips are required at the option of the instructor. Prerequisite: Geol. 111Q, Geog. 201 or equivalent. A 16 564 1 1914

570. Biogeology. (3). 2R; 3L. Lab fee. Systematic survey of major fossil biogeological materials, analysis of the origin and evolution of life and palaeoecological interpretation of ancient environments and climates. Handlens and binocular microscopic examination is made of major fossil biogeological materials. Application of analyzed fossil data to the solution of problems in biogeochronology, palaeoecology, palaeobiogeography and palaeontology is required. Prerequisites: Geol. 312 or 552. A 16 570 1 1918

574. Special Studies in Biogeology. (3). 2R; 3L. Lab fee. A systematic study in selected areas of biogeology and palaeontology.
Course content differs, upon demand, to provide in-depth analysis in the fields of: (a) invertebrate paleontology, (b) vertebrate paleontology, (c) micropaleontology, (d) petrology, and (e) paleoecology. Appropriate laboratory instruction is given in the systematics, taxonomy and biogeographical relationships within the selected area. Field trips may be required. Repeatable for credit to cover all five areas listed. A 16 574 1 1918

581. Numerical Geology. (3). 2R; 3L. Treatment of numerical data in geology, including univariate and bivariate statistics and exploration in FORTRAN. A study of geological data and computer techniques used to analyze them as well as case histories of applications are emphasized. Prerequisite: Math 371Q or CS 2002 and 201 or permission of instructor. A 16 581 1 1914

620. Geochemistry. (3). The chemistry of earth materials and the important geochemical processes and cycles operating on and within the earth through time. Prerequisites: Geol. 324 and Chem. 112Q. A 16 600 0 1915

630. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area of geological significance. The course is given upon demand and may be repeated for credit with a change in content desired. Where appropriate, travel, lodging and board costs are charged. A 16 630 2 1914

640. Field Geology. (6). Field investigation of sedimentary, igneous and metamorphic rock units and their structures. The application of mapping methods in solving geologic problems is included. This course is held at an off-campus field camp for five weeks (including weekends). Preparation of geologic column sections, maps and an accompanying professionally written report are due on campus during the sixth week. Prerequisite: 12 credits of advanced geology, preferably including a field-mapping methods course or instructor’s consent. Offered jointly with Kansas State University. A 16 640 1 1914

650. Geohydrology. (3). 2R; 3L. Lab fee. The hydrologic cycle, physical and chemical properties of water, field flow through permeable layers, water quality and pollution, and studies on groundwater, water quality and pollution, and water law. Prerequisites: Geol. 552 and Math. 243 or instructor’s consent. A 16 650 1 1914

557. Earth Science Instructional Methods. (3). Practice in teaching an introductory course in earth science. Emphasis is placed on presenting the latest scientific laboratory techniques and evaluating their effectiveness. May be taken more than once if content and objectives differ. Prerequisite: senior standing and permission of the department chairperson. A 16 657 0 1914


680. Economic Geology. (2-6). 2R; 3L. Lab fee. Occurrence of metallic and nonmetallic economic mineral deposits and the physiochemical principles governing their origin. Included also are a laboratory examination of ores and industrial minerals and elements of economic mineral beneficiation. Field trips may be required. Prerequisite: Geol. 324. A 16 680 1 1914

682. Petroleum Geology. (3). 2R; 3L. Lab fee. The origin, migration and accumulation of oil and gas in the earth's crust, as well as the distribution and significant features of modern fields, and energy alternatives and impacts. Field trips may be required. Prerequisite: Geol. 544. A 16 682 1 1914

684. Subsurface Geology. (3). 2R; 3L. Lab fee. All subsurface methods, including laboratory, logging, testing and treatment, valuation and mapping methods. Field trips are required at the option of the instructor. Prerequisites: Geol. 652 and Phys. 214Q or equivalent. A 16 684 1 1914

689. Special Studies in Geology. (1-3). Systematic study in selected areas of geology. Course content differs and is repeatable for credit. Laboratory work or field trips may be required at the option of instructor. Offered on demand. Prerequisite: instructor’s consent. A 16 689 1 1914

692. Independent Study in Geology. (1-3). Independent study on special problems in the field of geology. A general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geology, (g) sedimentation, (h) stratigraphy, (i) geophysics and (j) petroleum. Independent study in selected areas of geology with a written final report required. Prerequisite: consent of sponsoring faculty. A 16 692 3 1914

701. Seminar. (1). Current topics in geology. Reports of current student and faculty research. Required of all new degree-seeking graduate students. A 16 701 9 1914

720. Workshop in Geology. (1-3). Short-term courses with special focus on geological problems. Prerequisites: graduate standing and/or instructor's consent. A 16 750 2 1914

Courses for Graduate Students Only

800. Research in Geology. (3). 2R; 3L. Lab fee. Research in special areas of geology: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geology, (g) sedimentation, (h) stratigraphy, (i) geophysics and (j) petroleum. A written final report is required. Prerequisite: consent of sponsoring faculty. A 16 800 4 1914

808. History of Geology. (1-3). Selected events and personalities in geology that have led to our present understanding of geology’s place in science. Prerequisite: permission of instructor. A 16 883 9 1914

810. Advanced Graduate Studies in Geology. (1-6). Seminar study in a selected topic of professional or applied geology. The course is given upon demand and may be repeated for credit when course content differs. Field trips may be required. Prerequisites: graduate standing, consent of instructor and two years of professional postgraduate practice in geology. A 16 810 9 1914

823. Igneous and Metamorphic Petrology. (3). 1R; 6L. Lab fee. Mineral parageneses, textural and chemical aspects of igneous and metamorphic rocks. Thin-section studies to facilitate rock identification and the determination of petrogenetic relationships. Field trips may be required. Prerequisite: Geol. 520. A 16 823 1 1914

826. Sedimentary Petrology. (3). 2R; 3L. Lab fee. Detailed study of sedimentary rocks and their origins. Determination of mineral compositions, textures, structures, fabrics and petrogenetic relationships are facilitated by the use of thin sections, peels and geochronological analyses. Field trips may be required. Prerequisite: Geol. 526. A 16 826 1 1914

830. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area or region of geological significance. The course is given upon demand and may be repeated for credit when course locality and content differ. Where appropriate, travel, lodging and board costs are charged. Prerequisites: field geology (or equivalent) and instructor's consent. A 16 830 2 1914

840. Geotectonics. (3). Physical and geologic principles of crustal deformation and tectonic interpretation. The relationship of interior earth processes to crustal deformation is studied with special reference to global tectonics. Field trips may be required. Prerequisite: instructor's consent. A 16 840 0 1914

852. Field Stratigraphy. (3). 2R; 3L. Lab fee. Advanced concepts and principles of stratigraphic analysis and interpretation with emphasis on original sources and current research investigations. Field problem and field trips are required. Prerequisite: Geol. 544 and 552 or instructor's consent. A 16 852 1 1914

870. Advanced Biogeography. (3). 2R; 3L. Lab fee. Paleoecological reconstruction of ancient plant/animal communities and environments with emphasis on community structure, biogratigraphy, and synthesis of total raw data and problem solving. Field trips may be required. Prerequisite: a course in biogeology or equivalent. A 16 870 1 1918

880. Mineral Deposits. (3). 2R; 3L. Lab fee. An advanced treatment of the occurrence, classification and origin of metallic ore deposits; applied petrography of selected ore and host-rock suites; mineralogy of opaque ore minerals and their textures. Field trips may be required. Prerequisite: Geol. 680. A 16 880 1 1914

890. Thesis. (1-6). Prerequisite: departmental consent. A 16 890 1 1914

Geography

Only courses 201 and 235 are intended as physical science courses. All other geography courses are intended as social science offerings.

Lower-Division Courses

125Q. Principles of Human Geography. (3). An introductory course that examines the development of human societies and cultural landscapes. A 16 125Q 0 2206

150. Workshop in Geography. (1-4). Short-term courses with special focus on geographical problems. Prerequisite: instructor’s consent. A 16 150 2 2206

201. Physical Geography. (3). 2R; 3L. Lab fee. Emphasis upon the physical basis of geography, including climate, terrain, soils, and their regional significance. Field trips are required at the option of the instructor. A 16 201 1 1917

210G. World Geography. (3). A general survey of world geography, including an analysis of the physical, political, economic, historical and human geography of the major world regions. A 16 210G 0 2206

235. Meteorology. (3). 2R; 2L. Lab fee. An introductory study of the atmosphere and its properties and the various phenomena of weather. A brief survey of important principles of physical, dynamic, synoptic and applied
meteology is included. This course does not apply toward a major or minor in geology. Field trips are required at the option of the instructor. Prerequisite: instructor’s consent. A 16 235 1 1913

362Q. Cultural Geography. (3). An introduction to cultural geography emphasizing man’s geographical distributions, the spatial analysis of his cultural activities, the sources and techniques of his livelihood and the relationships to his environment. A 16 262Q 0 2206

Upper-Division Course

320. Field Studies in Geography. (1-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs are charged. A 16 320 2 2206

Courses for Graduate/Undergraduate Credit

510. World Geography. (3). A general survey of world geography, including an analysis of the physical, political, economic, historical and human geography of the major world regions. A 16 510 0 2206

520. Geography of the United States and Canada. (3). Physical, political, economic, historical and human geography of the United States and Canada. A 16 520 0 2206

530. Geography of Latin America. (3). Physical, political, economic, historical and human geography of Latin America. A 16 530 0 2206

542. Geography of Europe. (3). Physical, political, economic, historical and human geography of Europe. A 16 542 0 2206

550. Geography of Africa. (3). Physical, political, economic, historical and human geography of Africa. A 16 550 0 2206

572. Geography of Asia. (3). Physical, political, economic, historical and human geography of Asia. A 16 572 0 2206

580. Economic Geography. (3). A geographical analysis of the distribution and utilization of basic world resources. A 16 580 0 2206

620. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs are charged. A 16 620 2 2206

630. Geography of Mexico. (3). Physical, human and cultural geography of Mexico, including important archaeological and historical settings. Relations of sources to arts, crafts, industry and architecture. A 16 630 0 2206

670. Urban Geography. (3). 2R; 3L. Lab fee. Geography of cities: the origin, growth, functions, characteristics and environmental problems of urban areas; structure and dynamic elements of intraurban space; land-use analysis and approaches to urban planning; and problems of urban ecology. A 16 670 1 2214

695. Special Studies in Geography. (1-3). 3R or 2R; 3L. Lab fee. (Lab is included when appropriate.) Systematic study in a selected area of topical interest in geography. The course is given upon demand and may be repeated for credit when the course locality and content differ. Field trips may be required. Prerequisite: junior standing. A 16 695 3 2206

750. Workshop in Geography. (1-4). Short-term courses with special focus on geographical problems. Prerequisite: instructor’s consent. A 16 750 2 2206

Course for Graduate Students Only

820. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs are charged. Prerequisite: instructor’s consent. A 16 820 2 2206

History

The major in history provides a program that is varied and flexible enough to answer the needs for an integrated liberal education. The program has five areas of concentration: the ancient and medieval world, modern Europe, England, the United States and general history.

Courses also are offered in such areas as urban history, military history, women in history, popular culture, family history and the Holocaust.

The history major, often in combination with courses in other disciplines, touches many fields of endeavor, providing flexibility for entrance into a wide variety of career opportunities, including law, professional writing, teaching, communications, business, government and public affairs.

Major. A major in history requires a minimum of 29 hours. History majors must specialize in one of the following areas:

1. Ancient and medieval history—requires Hist. 101G plus one additional lower-division course
2. Modern European history—requires Hist. 102G plus one additional lower-division course
3. English history—requires Hist. 113 or 114 plus one additional lower-division course
4. U.S. history—requires Hist. 131Q or 132Q plus one additional lower-division course
5. General history—requires two additional lower-division courses

Nine upper-division hours are to be selected from courses in each appropriate area and must be chosen in consultation with an advisor. All history majors must take Hist. 500 and 699. In addition, sufficient hours need to be elected to bring the total to 29. At least six of these hours must be upper-division hours that are not in the area of specialization. Hist. 108G and Hist. 330G may not be used toward the history major.

Minor. A minor in history consists of 15 hours, including a maximum of two lower-division courses and at least three upper-division courses.

Teaching of History. Because Kansas Department of Education regulations governing the certification of secondary history teachers are very specific, students planning to be teachers of history should contact a secondary social studies adviser in the College of Education for program planning beyond the requirements of the history major.

Lower-Division Courses

100G. The Human Adventure: World Civilization Since 500 BC. (3). A broad historical survey of the history of the human experience during the past five centuries; with attention given to the major social, cultural, economic and political traditions of Asia, Africa and the Americas as well as Europe. A 16 100G 0 2205

101G & 102G. History of Western Civilization. (4 & 4). 101G: prehistory to 1680; 102G: 1680 to the present. A 18 101G 0 2205 & A 18 102G 0 2205

106G. The Way It Was: Western Civilization in Film. (4). Selected topics in the history of Western civilization from topic(s) dealt with in films from the 17th century to the present. Not open to history majors or to those with credit in Hist. 101G and 102G. A 18 106G 0 2205

108G. A History of Lost Civilizations. (3). A comparative examination of lost civilizations of both the Old World and New World, including the Sumerians, Hittites, Minoans, Mycenaeans, Egyptians, Mayans, Incas, Mayas and Aztecs. A 18 108G 0 2205

111 & 112. History of Latin America. (3 & 3). 111: a study of Spanish and Portuguese colonization of America; 112: an examination of the national period from the wars of independence to the present. A 18 111G 0 2205 & A 18 112G 0 2205

113 & 114. English History. (3 & 3). 113: from the earliest times to the beginning of the Stuart period, emphasizing the origins and development of institutions, customs and nationalism; 114: from the beginning of the Stuart period to the present. A 18 113G 0 2205 & A 18 114G 0 2205

131G & 132G. History of the United States. (4 & 4). 131G: the colonial period through the Civil War. 132G: survey from Reconstruction to the present. A 18 131G 0 2205 & A 18 132G 0 2205

150. Workshop in History. (2-3). A 18 150G 2 2205

213. American Popular Culture. (3). Cross-listed as Amer. Stud. 213. An examination of popular culture from colonial times to the present with special emphasis on the media explosion since the Civil War. This course looks at the American past through the eyes of modern media; suggesting that man has experienced the past differently from what traditional surveys indicate. Such topics as popular music, cinema, pulp magazine literature, comics, television, cult heroes,
stereotyping of public issues, family life, fashion and familiar items of household technology are treated seriously rather than as sideshows to the more serious business of politics and finance. A 18 213 0 2205

220. The World: A Television History. (3). A comparative view of major world developments from the stone age to modern times. Emphasis will be on the origins of civilization in Europe, Asia, Africa and the Americas, urbanization, empire-building; the great religious and ethical traditions, feudalism, commerce, capitalism, industrialization and colonialism. The course will consist of two thirty-minute televised sessions each week and a one hour and fifteen minute meeting on campus one evening a week. A 18 220 0 2205

222. East Asia. (3). Cross-listed as Pol. Sci. 222, LAS 222Q and Rel. 222. A survey of basic topics or China, Korea and Japan, including history, culture, society, philosophy, religion, politics and economics. This course is taught by a team of instructors from several departments. A 18 222 0 2205

225. Your Family in History. (3). A course designed to bridge the gap between history and genealogy through demonstrations of the kinds of research techniques available to those who are interested in creating a family history. Students demonstrate understanding of these techniques in a family history project. A 18 225 0 2205

Upper-Division Courses

300. Introduction to Historical Research and Writing. (3). Basic instruction in research methodology, composition and criticism. Prerequisite: departmental consent. A 18 300 0 2205

310. Special Topics in History. (2-3). Repeatable twice for credit. Prerequisite: departmental consent. A 18 310 3 2205

330G. The Americans: Conflict and Consensus in the Development of American Society. (3). A cultural and departmental fee. A topical examination of selected historical phenomena and personages in the evolution of American democratic society as interpreted by historians and literati. A 18 330G 0 2205

340. World War II. (3). An introduction to the background and causes of World War II, as well as the military, diplomatic, economic, psychological and scientific dimensions of the war. The legacy of the war will be considered in light of the postwar world. A 18 340 0 2205

481. Cooperative Education. The cooperative program would cover work done at museums or archival divisions of libraries. Cannot be included for a history major or minor. Offered for Cr/Nr only. Prerequisite: departmental consent. A 18 481 0 2205

Courses for Graduate/Undergraduate Credit

501. The American Colonies. (3). Colonialization of the New World: an emphasis on the British colonists and their development. A 18 501 0 2205

502. The American Revolution and the Early Republic. (3). Examination of selected phases of the revolutionary, Confederation and federal periods. A 18 502 0 2205

503. The Age of Jefferson and Jackson. (3). Political, economic and cultural development of the United States from the election of Thomas Jefferson to the end of the Mexican War with emphasis on the growth of American nationalism. A 18 503 0 2205

504. Civil War and Reconstruction. (3). A 18 504 0 2205

505. America's Colonial Age, 1677-1900. (3). Emphasis on roots of urban problems, foundations of dissent, policy toward minority groups and evaluation of imperial expansion. A 18 505 0 2205

506. The United States: the 20th Century, 1900-1929. (3). The Progressive Era, World War I, the postwar period and the twenties. A 18 506 0 2205

507. The United States: the 20th Century, 1929-1945. (3). The Great Depression, the New Deal and World War II. A 18 507 0 2205

508. The United States: the 20th Century, Since 1945. (3). The history of the United States from the Truman through the Nixon administrations. A 18 508 0 2205

515. Economic History of the United States. (3). Cross-listed as Econ. 515. A 18 515 0 2205

517 & 518. Constitutional History of the United States. (3 & 3). 517: the evolution of the constitutional system from English and colonial origins through the Civil War. 518: American constitutional development from Reconstruction to the present. A 18 517 0 2205 & A 18 518 0 2205

519. Social History of the U.S. to 1865. (3). Survey of American thought and society to the end of the Civil War. A 18 519 0 2205

521 & 522. Diplomatic History of the United States. (3 & 3). 521: from independence through World War I. 522: continues to present. A 18 521 0 2205 & A 18 522 0 2205

525. American Military History. (3). A history of the military in America, from the colonial period to the present, emphasizing warfare and military institutions and their impact on American social, economic and political traditions. A 18 525 0 2205

529. Indians of Kansas. (3). History of Indian occupation of the Kansas region from initial white contact to the present. Emphasis is given to Indian white relations in the 19th century, forced removal of the emigrant tribes, inter tribal and intra tribal relations and consequent legal and cultural problems. A 18 529 0 2205

530. The American Woman in History. (3). Cross-listed as WS 530. Examination of the history, status and changing role of women in American society. A 18 530 0 2205

533. The American City: from Village to Metropolis. (3). A study of urbanization and urban life from colonial times to the present—changing life-styles and thought patterns, urban architecture, ethnic assimilation, emergence of the suburb, political and ecclesiastical adjustments and the influence of new technology and new patterns of business organization. A 18 533 0 2205

534. History of the Old South. (3). An examination of Southern civilization prior to the American Civil War. A 18 534 0 2205

535Q. History of Kansas. (3). History of the Kansas region from Spanish exploration to the present, with special emphasis on the period after 1854. A 18 535Q 0 2205

537. The Trans-Mississippi West. (3). Spanish exploration, penetration and settlement west of the Mississippi River from the 16th century to about 1900. A 18 537 0 2205

539. Indian-White Relations in North America. (3). Indian life, culture and history from the 16th century to the present with emphasis upon the impact of federal Indian policy since 1800. A 18 539 0 2205

540. Recent Indian Policy in the United States. (3). History of the American Indian since General George Meade. Emphasis is given to de-indianization, revival of the 1930s, the politics of reform, the termination controversy, Native American protest and contemporary legal problems. A 18 540 0 2205

541. Modern France. (3). History of the major trends in French history from Napoleon to deGaulle with emphasis upon French attempts to adjust politically, socially, economically and culturally to the changing conditions of modern industrial society. A 18 541 0 2205

545Q. Neither War Nor Peace: The World Since 1945. (3). A 18 545Q 0 2205

553. History of Mexico. (3). Pre-Columbian Mesoamerica; the Spanish conquest and the colonial period; the independence movement; Juarez, the Reform and the French intervention; the Porfiriato; the Mexican Revolution; Mexico in recent years. A 18 553 0 2205

559Q & 560. Greek History. (3 & 3). 559: the Hellenic world from prehistoric times to the end of the Peloponnesian War. 560: the 4th century BC and the Hellenistic period. A 18 559Q 0 2205 & A 18 560 0 2205

562 & 563. Roman History. (3 & 3). 562: the Roman Republic. 563: the Roman Empire. A 18 562 0 2205 & A 18 563 0 2205

566 & 567. Medieval History. (3 & 3). 566: the history of Europe from the fall of the Roman Empire through the Crusades. 567: 600 to 1200. 567: history of Europe, 1200 to 1500. A 18 566 0 2205 & A 18 567 0 2205

575Q. The Italian Renaissance. (3). Italian history from the 14th through the 16th centuries with emphasis on cultural achievements. A 18 575Q 0 2205

576. The Reformation. (3). Cross-listed as Rel. 476. The great religious changes in the 16th century in the political, social and intellectual contexts. A 18 576 0 2205

581. Europe, 1815-1870. (3). A 18 581 0 2205

582. Europe, 1870-1914. (3). A 18 582 0 2205

583. Europe, 1914-1945. (3). A 18 583 0 2205

590. History of Russia. (3). Political and cultural history of Kiev, Muscovite and Imperial Russia. A 18 590 0 2205

591. The History of the Soviet Union. (3). A survey of Soviet history from the Bolshevik Revolution to the present. A 18 591 0 2205

592. The Soviet Union Today. (3). An examination of the contemporary scene in the USSR historical background, Marxist-Leninist ideology, industrial and agricultural economies, roles played by women, national minorities and dissidents in Soviet society, the press, literature and art, human rights and prospects for the country's future. A 18 592 0 2205

595. History of Eastern Europe. (3). The development of the Bulgar, Czech, Magyar, Polish, Romanian and Yugoslav peoples. A 18 595 0 2205

612 & 613. European Diplomatic History. (3). 612: European international politics and diplomatic practices, with emphasis on the actions of the great powers and their statesmen. 613: Versailles settlement, totalitarian ag-
gression, appeasement, World War II, the cold war and decolonization of Southeast Asia and the Middle East as a prelude to major power involvement. A 18 612 0 2205 & A 18 613 0 2205

615. Hitler and the Third Reich. (3). The establishment and collapse of the Weimar Republic, the rise and fall of Hitler’s Third Reich, the divided Germany of the present and the role of each in world affairs, 1914 to the present. A 18 615 0 2205

616. Germans and Jews. (3). The history of antisemitism in central Europe, 19th and 20th centuries. A 18 616 0 2205

617Q. The Holocaust. (3). The origins and development of the concentration camp system in Nazi Germany and its transition into a death camp system. A 18 617Q 0 2205

620. Media Courses in History. (2-3). Courses created or coordinated by the Department of History which are offered through various media: radio, television and newspaper. Areas of historical emphasis vary from course to course. Repeatability with instructor's approval; however, three maximum credit will apply towards MA degree in history. A 18 620 0 2205

629. A History of Tudor and Stuart England. (3). Examination of the fundamental political, social, economic, intellectual and religious developments in English history from 1485 to 1714. A 18 629 0 2205

698. Historiography. (3). Review of the major schools of historical thought, philosophies of history and eminent historians from the ancient world to the present. This course is required of history majors. A 18 698 0 2205

701. Introduction to Public History. (3). This course will introduce students to the various areas of public history including historic preservation, archival administration, museum studies, litigation support and corporate history. Students will learn the philosophies, techniques and practices that comprise the field and ways these areas intersect with their academic training. Prerequisites: graduate standing or instructor's consent. A 18 701 0 2205

725. Advanced Historical Method. (3). Review of basic historical research methods, the general character of field bibliographies and recent interpretations and the techniques of professional historical development. Required of graduate degree students during their first year of enrollment. Prerequisites: departmental consent. A 18 725 0 2205

729. Seminar in American History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 729 9 2205

730. Seminar in American History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 730 9 2205

733. Seminar in European History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 733 9 2205

734. Seminar in European History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 734 9 2205

750. Workshop in History. (1-3). Repeatable for credit but does not satisfy requirements for history majors. A 18 750 2 2205

Courses for Graduate Students Only

801. Thesis Research. (2). A 18 801 4 2205

802. Thesis. (2). A 18 802 4 2205

810. Special Topics in History. (1-3). Open only to graduate students. Repeatable for credit to a maximum of four hours. A 18 810 3 2205

Interdisciplinary Liberal Arts and Sciences Program

Lower-Division Courses

222Q. East Asia. (3). Cross-listed as Hist. 222, Pol. Sci. 222Q and Rel. 222Q. A survey of basic topics on China, Korea and Japan, covering the period from 5000 B.C. to the present, including geography, prehistory, history, culture, anthropology, society, philosophy, religion, politics and the economics of each country. The course is taught by a team of instructors from several departments. A 19 222Q 0 4901

281. Cooperative Education. (1-4). The course provides employment opportunities where an internship program is approved by appropriate faculty sponsors. May be repeated. Offered Cr/NCr only. A 33 281 2 4903

Upper-Division Courses

300G. Peace and War: Global Issues. (3). An introduction to the study of conditions which had led to war or peace in the past and which may do so in the future. Holocaust, diverse views are presented on worldwide issues from the perspectives of the natural and social sciences, the arts and humanities, and applied studies. A 33 300 0 4093

398. Travel Seminar. (1-4). An interdisciplinary travel seminar; a study of culture that includes observations of art and architecture, lectures and discussions of political, social and economic problems, and visits to various historic places of interest. A 10 398 9 4903

481. Cooperative Education. (1-4). The course provides employment opportunities where an internship program is approved by appropriate faculty sponsors. May be repeated. Offered Cr/NCr only. A 33 481 2 4903

Courses for Graduate Students Only

800. Seminar: Research Goals and Strategies. (3). An introduction to research goals and strategies, methods and sources in the humanities, social sciences and natural sciences, with special attention to the opportunities and the problems of integrating research activities involving more than one discipline. Required of all students in the Master of Arts in Liberal Studies Program. A 33 800 4 4999

875. Thesis. (1-6). A course for students who are finishing the Master of Arts in Liberal Studies (MALS). The student writing a thesis must be enrolled in this course until the thesis is completed and all thesis requirements have been satisfied. Prerequisite: consent of student's degree committee chairperson and instructor. A 33 875 4 4999

885. Terminal Project. (2-6). A course for students who are near the end of their MALS program and involved in a terminal project. The terminal project may have many aspects such as a final paper, work, practicum, internship, research report of any other individualized activity, but the scope of it must be approved by the student's advisory committee. The student involved in a project must be enrolled in this course until the project is completed and all project requirements have been satisfied. A 33 885 4 4999

Italian (See Modern and Classical Languages and Literatures)

Journalism

Courses are designed to give graduates a thorough grounding in the skills they need to become valued members in the journalistic profession, broadcasting, advertising, public relations or other related work.

Major. The major in journalism consists of 30 hours, including Journ. 200, and a concentration of no fewer than 15 hours in one additional field of study in a college of Wichita State. In addition, one of the following sequences must be completed:


2. Radio-Television—Journ. 322, 522 and 500; Spch. 114Q, 214 and 606; Thea. 221Q or 222; plus six hours in upper-division journalism and speech electives.

3. Advertising-Public Relations—Journ. 115Q, 325, 350, 510, 525, 550, 560, 625 and one journalism elective or Spch. 737 or 770. Public relations students may substitute Journ. 502 for Journ. 525. The outside concentration for this sequence consists of Psych. 304 and Mkt. 300, 405, 607 and one other marketing course.

Minor. A minor in journalism requires at least 15 hours, including Journ. 200.

Lower-Division Courses

115Q. Introduction to Mass Communication. (3). A survey of the media of mass communication and the role each plays in society. Special consideration is given to the freedom and responsibilities of the mass media. A 19 115Q 0 0601

150. Journalism Workshop. (1-3). A course designed to provide specialized instruction, using a variety of journalisci cases relevant to journalism. A 19 150 2 0699


4L. Required for the major in journalism the course includes evaluation of news, reporting and writing of various types of news stories with emphasis on achieving accuracy and good writing. Reasonable typing competence is required. Prerequisite: Eng. 102, A 19 200 1 0602

Courses for Graduate Students Only

801. Thesis Research. (2). A 18 801 4 2205

802. Thesis. (2). A 18 802 4 2205
Upper-Division Courses

300. Beat Reporting. (3). Reporting and writing about events in the community. Stories assigned and handled under the instructor’s direction may be used in various publications. Prerequisite: Journ. 200. A 19 320 5 0602


325. Introduction to Advertising. (3). Survey of advertising fundamentals and practices, including copywriting, layout, visualization, market research and packaging. Prerequisite: Journ. 203 or departmental consent. A 19 325 0 0604

340. Applied Photojournalism. (3). 3R; 3L. Lab fee. Covering photographic assignments for the campus newspaper and other publications, under the overall supervision of a journalism instructor. Prerequisite: Journ. 240. A 19 340 1 0602

350. Introductory Public Relations. (3). An introduction to the theory and practice of professional public relations. Topics covered include the role of persuasion and public opinion in public relations, the tools used in planning and evaluating communication and specialized publications. Prerequisite: Journ. 200. A 19 350 0 0604

3800. History of Communication. (3). The development of the mass media is studied in context with other historical events. American journalism journals are read to the present is emphasized. Course includes bibliography and criticism in mass communication. A 19 3800 0 0601

440. Advanced Photojournalism. (3). 3R; 3L. Lab fee. Advanced photographic theory and technique with emphasis on the feature page photo essay, advertising photography for daily news publications and the photojournalists’ personal viewpoints and philosophies. Using their own camera equipment and the journalism department’s laboratory facilities, students shoot, process and print photographs for publications. Prerequisite: Journ. 240. A 19 440 1 0602

481. Cooperative Education. (1-4). Offered for CrNCT only. A 19 481 2 0602

Courses for Graduate/Undergraduate Credit

500. Advanced Reporting I. (3). 1R; 4L. A course for juniors and seniors on the techniques of writing the more complex and important types of news stories. Covers police beat stories, sports and economic reporting and includes the study and practice of journalistic interviewing. Prerequisites: junior standing, Journ. 200 and either 300 or 322. A 19 500 1 0602

501. Investigative Reporting. (3). 1R; 4L. Study and application of the techniques of reporting and writing complex news stories involving the less obvious aspects of local and state government, education and various court proceedings. The lab is by arrangement to permit independent investigation into the news of government or public affairs that is not easily obtainable. Prerequisite: Journ. 500 for majors; departmental consent for graduate students. A 19 501 1 0602

502. Public Information Writing. (3). Basic journalistic skills and clear, precise writing are used to communicate effectively with various audiences. Students write press releases, speeches and popularizations of complex documents. Techniques learned in this course are valuable in writing grant proposals, committee reports, pamphlets and journal articles. Prerequisite: junior standing or departmental consent. A 19 502 0 0602

510. Editing. (3). 1R; 4L. Selection, evaluation and preparation of copy and pictures for publication. Covers copy editing,rewriting, headline and caption writing and page layout. Prerequisites: junior standing and Journ. 200. A 19 510 1 0602

520. Seminar in Journalism. (3). Exploration of problems and controversies involving the press, news sources, news of news and consumers of news. Prerequisite: departmental consent. A 19 520 9 0601


525. Advertising Copywriting. (3). Detailed practice at writing various kinds of advertising copy, including print and broadcast forms. Emphasis is on terse, precise writing that evokes response sought by advertiser. Prerequisite: Journ. 325 or departmental consent. A 19 525 0 0604

550. Editorial Writing. (3). A study of editorial judgment, including the practice in the writing of editorials and editorial page features and a study of research materials available to editorial writers. Prerequisites: junior standing and Journ. 200. A 19 550 0 0602

560. Law of the Press. (3). Emphasis on the case method in examining laws and court cases affecting the press. The case method will be used to study the legal requirements of the press. Prerequisites: junior standing and Journ. 200. A 19 560 0 0601

570. Magazine Journalism. (3). A course on magazine production, including the choosing of subjects, approaches and illustrations; the writing and editing of photographic stories; layout, the handling of production and print and intent concerns. Prerequisite: Journ. 200 or departmental consent. A 19 570 1 0602

571. Magazine Writing. (3). A course on writing for magazines with emphasis on analyzing the market and patterning articles to fit the needs of specific magazines. Prerequisites: Journ. 320 or departmental consent. A 19 571 0 0602

511. Media Management. (3). A study of the business and management operations of the mass media designed to give journalism students an understanding of the relationships between the mass media and the public, the journalistic field and the public. Prerequisites: junior standing or departmental consent. A 19 611 1 0602

622. Practicum in Broadcast Journalism. (3). Cross-listed as Spch. 620. Reporting and writing about events in the University and community. Story assignment and preparation will occur under the instructor’s guidance and will be broadcast over WSU Cable Channel 13. May be repeated for credit with advisor’s consent. Prerequisites: Journ. 522, Spch. 522 or instructor’s consent. A 19 622 2 0603

625. Advertising and PR Campaigns. (3). Instruction and practice in constructing total advertising and public relations campaigns from market analysis and media selection to creation of the completed package. Prerequisite: Journ. 502, 525 or departmental consent. A 19 625 0 0604

690. Journalism Internship. (3-6). On-the-job experience and training in news, advertising, public relations or radio or television news broadcasting. Prerequisite: departmental consent. A 19 690 2 0601

715. World Press. (3). A comparative study of press and broadcast systems around the world with emphasis on press freedoms and cross-cultural communication. Prerequisite: senior standing. A 19 715 0 0601

7200. Dimensions of Mass Communication. (3). A detailed study of mass media, their role as social institutions, their control, support, content and audience and their effects. A 19 7200 0 0601

745. Special Topics in Journalism. (1-3). Directed individual research in various aspects of journalism and mass communication or related topics: communications theory, news, editorials, advertising and broadcasting. Repeatable for credit when topics differ substantially. Prerequisites: senior standing and departmental consent. A 19 745 3 0601

750. Journalism Workshop. (1-3). A course designed to provide specialized instruction, using a variable format, in a journalistically relevant subject. A 19 750 2 0609

Latin and Greek (See Modern and Classical Languages and Literatures)

Linguistics

The Bachelor of Arts degree in linguistics was phased out beginning in 1987; however, students presently enrolled in the program will be accommodated. An emphasis in linguistics will be available through the general studies program.

Major. A major in linguistics consists of a minimum of 24 hours from the courses listed below, including at least nine hours from Group A and at least one phonetics course—Ling. 218, Fr. 505 or Span. 505. A major must be combined with either a minor in a foreign language or the 111-112 sequence in two different foreign languages and three hours beyond 112 in one of them, or the equivalent.

Minor. A minor in linguistics consists of 15 hours from the following courses. At least six hours must be taken from Group A.
Note: Courses applied toward another major or minor will not apply toward a major or minor in linguistics.

Group A—Basic Linguistic Theory

Lower-Division Courses

1510. The Nature of Language. (3). An overview of the important facts about what language is and how it works and of the ways in which researchers in linguistics and in other disciplines, such as psychology, philosophy and anthropology, explain and make use of language. A 10 1510 0 1505


Upper-Division Course

315. Linguistics. Introduction to English Linguistics. (3). Cross-listed as Eng. 315. A 10 315 0 1505

Courses for Graduate/Undergraduate Credit


680. Linguistics. Comparative Linguistics. (3). Methods of establishing genetic relationship between languages and reconstructing proto-languages. The course includes a survey of the major language families of the world and typological comparisons of languages and the problem of language universals. Prerequisite: Ling. 315. A 10 680 0 1505

682. Linguistics. Structure of a Selected Non-Indo-European Language. (3). The language offered depends on student demand and availability of staff. The course may sometimes be conducted as a field methods course and is repeatable for credit when different languages are offered. Prerequisite: Ling. 315. A 10 682 0 1505

Group B—Linguistic Study of Specific Languages or Language Groups

Courses for Graduate/Undergraduate Credit


505. French. Advanced Phonetics and Diction. (2). Cross-listed as Fr. 505. A 10 505 0 1102

505. Spanish. Spanish Phonetics. (2). Cross-listed as Span. 505. A 10 505 0 1105

579. German. Linguistics in the Teaching of German. (3). Cross-listed as Ger. 579. A 10 579 0 1505

635. French and Spanish. Introduction to Romance Linguistics. (3). Cross-listed as Fr. 635 and Span. 635. A 10 635 0 1105

Group C—Areas of Contact Between Linguistics and Other Disciplines

Lower-Division Courses

220. CDS. Developmental Psycholinguistics. (3). Cross-listed as CDS 220. A 10 220 0 0815

301. Philosophy. Language and Philosophy. (3). Cross-listed as Phil. 301. A 10 301 0 1509

325. Philosophy. Formal Logic. (3). Cross-listed as Phil. 325. A 10 325 0 1509

Courses for Graduate/Undergraduate Credit


651. Anthropology. Language and Culture. (3). Cross-listed as Anthro. 651. A 10 651 0 2202

727. CDS. Teaching English as a Second Language. (2-3). Cross-listed as CDS 727 and Eng. 727. A 10 727 0 1220


Others

Lower-Division Course

292. Linguistics. Special Studies. (2-3). Topic selected and announced by individual instructor. Credit is assigned to Group A, B or C depending on content. Repeatable for credit when content varies. A 10 292 2 1505

Courses for Graduate/Undergraduate Credit

590. Linguistics. Special Studies. (2-3). Topic selected and announced by individual instructor. Credit is assigned to Group A, B or C depending on content. Repeatable for credit when content varies. A 10 590 2 1505

595. Linguistics. Directed Readings. (2-3). Credit assigned to Group A, B or C depending on content. Repeatable for credit. A 10 595 3 1505

Logopedics (See Communicative Disorders and Sciences, College of Education)

Mathematics and Statistics

Mathematics

Note: For ease of description, certain courses in mathematics and statistics are categorized in the following groups (the courses in Group R are required of all majors):

Group R: Math. 415, 511, 550, 551
Group A: Math. 545, 547
Group B: Math. 513, 515, 621, 690, 720, 725
Group C: Stat. 571, 572, 574, 576, 671, 771, 772
Group D: Math 530, 555, 640, 651, 657, 714, 751, 752, 753, 755, Stat. 661, 762

Major. For the Bachelor of Arts (BA) degree with a major in mathematics, students must complete all courses in Group R and one each from Groups A and B. In addition, the BA candidate must complete Math. 531 and two additional courses from those listed in Groups A, B, C and D.

For the Bachelor of Science (BS) degree in mathematics, students must complete all courses in Group R and one each from Groups A, B, C and D. In addition, the BS candidate must complete Math. 531 and 15 additional hours of courses in Group C or D with a statistics prefix which must include either Stat. 571-572 or Stat. 771-772. Students under this option may select statistics courses from other departments with the due approval of the Department of Mathematics and Statistics.

For students who are contemplating graduate work it is highly recommended that they include Math. 513, 547 and 640 in their program, along with courses in one or more of French, German or Russian.

Students majoring in mathematics should consult closely with their mathematics adviser on any of these programs.

Minor. For a minor in mathematics, students must complete the calculus sequence (2420, 243, 344) and take at least one additional upper-division course approved by both the Department of Mathematics and Statistics and the student's major department.

* All bachelor degrees in mathematics require a high-level algorithmic computer language such as FORTRAN or Pascal.

Noncredit Courses

007. Arithmetic. (3). Offered Cr/NCr only. A review and study of the basic arithmetic operations for the mature student whose previous training in arithmetic is inadequate for completion of college mathematics courses. A 20 007 0 1701

011. Algebra. (5). Offered Cr/NCr only. The topics from high school algebra essential to the study of university-level mathematics. This course may be used to meet departmental...
prerequisites in place of one and one-half units of high school algebra. Not applicable to degree. A 20 011 0 1701

021. Plane Geometry. (3). Offered CnCn only. For persons majoring in non-technical fields. No credit toward a major or minor in mathematics. A 20 011 0 1701

109. College Algebra with Review. (5). Topics covered include real numbers, algebraic expressions, exponents and radicals and solutions of equations. These topics are followed by the content of Math. 111. Credit is allowed in only one of the three courses: Math. 109, 111 or 112. (Only three hours apply toward a Wichita State degree.) High school geometry or Math. 021 is a highly-recommended preparatory course. Prerequisite: one unit of high school algebra or Math. 011. A 20 109 0 1701

111. College Algebra. (3). A survey of functions, theory of equations and inequalities, complex numbers and exponential and logarithmic functions. High school geometry or Math. 021 is a highly-recommended preparatory course. Prerequisite: one and one-half units of high school algebra or Math. 011. Credit is allowed in only one of the three courses Math. 109, 111 or 112. A 20 111 0 1701

112. Precalculus Mathematics. (5). Functions, theory of equations and inequalities, complex numbers, the trigonometric functions, exponential and logarithmic functions and other standard topics prerequisite to a beginning study of calculus. This course is not available for credit to students who have received a grade of C or better in Math. 2420 or its equivalent. Prerequisite: one and one-half units of high school algebra or Math. 011, and one unit of high school geometry or Math. 021. Credit is allowed in only one of the three courses Math. 109, 111 or 112. A 20 112 0 1701

123. College Trigonometry. (3). A study of the trigonometric functions with applications. Prerequisite: Math. 109 or 111, or equivalent high school preparation, and one unit of high school geometry or Math. 021. Credit in both Math. 123 and 112 is not allowed. A 20 123 0 1701

144. Business Calculus. (3). A brief, but careful, introduction to calculus for students of business and economics. Credit in both Math. 144 and 2420 is not allowed. Prerequisite: Math. 109, 111 or 112 with a grade of C or better or equivalent high school preparation. A 20 144 0 1701

150. Workshop in Mathematics. (1-3). Topics of interest to participants and not elsewhere available in the curriculum. May be repeated for a total of six hours credit with departmental consent. Prerequisite: departmental consent. A 20 150 2 1701

211. Elementary Linear Algebra. (3). Linear algebra and related topics. Prerequisite: one unit of high school algebra or Math. 011. A 20 211 0 1701

2420. Calculus I. (5). Analytic geometry and the calculus in an interrelated form. Credit allowed in only one of the three courses: Math. 112, 144 and 145. Not applicable to degree. A 20 2420 0 1701

243. Calculus II. (5). A continuation of Math. 2420. A study of integration and applications and an introduction to infinite sequences are included. Prerequisite: Math. 2420 with a grade of C or better. A 20 243 0 1701

Upper-Division Courses

300G. The Evolution of Mathematics. (3). A study of mathematics and mathematicians from antiquity to the present. The purpose is to see how mathematics has developed from man's efforts to understand the world and the extent to which mathematical thought has influenced our civilization and culture. Since mathematics is what mathematicians do, it is appropriate to study the lives of mathematicians from various ages and countries. This is not a mathematics skills course. A 20 300G 0 1701

311. Introduction to Linear Algebra. (1). A study of systems of linear equations, matrices, vectors, eigenvalues and eigenvectors. Credit not allowed in both Math. 211 and 311. Prerequisite: Math. 344 or concurrent enrollment. A 20 311 0 1701

331G. Discrete Mathematics I. (3). A study of some of the basic topics of discrete mathematics, including elementary logic, properties of sets, mathematical induction, counting problems using permutations and combinations, trees, elementary probability and an introduction to graph theory. Prerequisite: Math. 111 or 211 or equivalent college-level mathematics course. A 20 331G 0 1701

344. Calculus III. (3). A continuation of Math. 243. The course includes a study of multiple integrals and partial derivatives. Prerequisite: Math. 243 with a grade of C or better. A 20 344 0 1701

415. An Introduction to Advanced Mathematics. (3). The concept of proof will be developed in a setting of mathematical tools: set theory, properties of real numbers, equivalence relations, functions, induction and mathematical systems. Prerequisite: Math. 344 with a grade of C or better. A 20 415 0 1701

480. Individual Projects. (1-5). Repeatable up to ten hours. Prerequisite: departmental consent. A 20 480 3 1701

Courses for Graduate/Undergraduate Credit

Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

501. Elementary Mathematics. (5). A study of topics necessary to an understanding of the elementary school curriculum, such as set theory, real numbers and geometry. Not for major or minor credit. Prerequisite: elementary school major or Math. 111 or equivalent or departmental consent. A 20 501 0 1701

503-504. Topics in Modern Mathematics I and II. (3-3). An investigation of the newer logical thought in science and its applications in the social sciences. Repeatability for credit. Prerequisite: department consent. A 20 503 0 1701; A 20 504 0 1701

511. Linear Algebra. (3). An elementary study of linear algebra, including an examination of linear transformations and matrices over finite dimensional spaces. Prerequisite or corequisite: Math. 344. A 20 511 0 1701

513. Fundamental Concepts of Algebra. (3). Groups, rings and fields. Prerequisite: Math. 511 or departmental consent. A 20 513 0 1701

530. Applied Combinatorics. (3). Basic counting principles, occupancy problems, generating functions with applications, special principles of inclusion and exclusion, the pigeonhole principle, Fibonacci sequences and elements of graph theory. Prerequisite: Math. 511 or a grade of C or better. A 20 530 0 1701

551. Introduction to the History of Mathematics. (3). A study of mathematics and mathematicians from antiquity to the present, emphasizing how various areas of mathematics evolved. Problems are solved using the methods of the historical period in which they arose. Requires mathematical skills. Prerequisite: Math. 511 and at least six additional hours of mathematics and/or statistics courses numbered 500 or above. A 20 551 0 1701

545. Integration Techniques and Applications. (3). A study of the basic integration techniques used in applied mathematics. Included are the standard vector calculus treatment of line and surface integrals, Green's Theorem, Stokes' Theorem and The Divergence Theorem. In addition, the study of integrals of functions of several variables is included. Prerequisite: Math. 344 with grade of C or better. A 20 545 0 1701

547. Advanced Calculus I. (3). A detailed study of limits, continuity and integration. Prerequisite: Math. 344 with a grade of C or better. A 20 547 0 1701

550. Ordinary Differential Equations. (3). An investigation of integrating factors, separation of variables, critical points, linear differential equations with constant coefficients, variation of parameters and existence and uniqueness of solutions for first and second order ordinary differential equations. Some use of the computer. Prerequisite: Math. 344 with a grade of C or better and a knowledge of FORTRAN or departmental consent. A 20 550 0 1701

551. Numerical Methods. (3). Approximating roots of equations, interpolation and approximation, numerical differentiation and integration of the two-dimensional numerical solution of first order ordinary differential equations. Some use of the computer. Prerequisite: Math. 344 with a grade of C or better and a knowledge of FORTRAN or departmental consent. A 20 551 0 1701

553. Mathematical Models. (3). This course covers case studies from the fields of engineering, technology and the natural and social sciences. The emphasis is to describe a problem and then determine the mathematics necessary to solve the problem. The case studies are selected to illustrate several of the topics from among linear algebra, differential and integral equations, stochastic processes, statistics and combinatorics. Each student is required to participate in a term project which is to be the solution of a particular problem approved by the instructor. Prerequisite: Math. 344 or departmental consent. A 20 553 0 1701
580. Selected Topics in Mathematics. (3). Topic to be chosen from among topics not otherwise represented in the curriculum. May be repeated to a total of six hours credit with departmental consent. Prerequisite: departmental consent. A 20 580 0 1701

615. Elementary Number Theory. (3). Properties of the integers studied by elementary means. Prerequisite: Math. 344 or departmental consent. A 20 615 0 1701

621. Elementary Geometry. (3). A study of the structure of Euclidean geometry. Prerequisite: Math. 344 or departmental consent. A 20 621 0 1701

640. Advanced Calculus II. (3). An examination of the calculus of functions of several variables and line and surface integrals. Prerequisites: Math. 511 and 547 with a grade of C or better. A 20 640 0 1701

657. Optimization Theory. (3). An introduction to selected topics in linear and nonlinear optimization. The revised simplex method is developed along with a careful treatment of duality. The theory is then extended to solve parametric, integer and mixed integer linear programs. Other topics include additional methods in integer programs and classical methods in nonlinear optimization. Prerequisite: Math. 511. A 20 657 0 1703

690. Introduction to Mathematical Logic. (3). A study of symbolic logic including an axiomatic development of propositional calculus and first-order predicate calculus, an introduction to the role of formal languages in mathematics and computer science and applications of logic such as Boolean algebra, switching circuits and model theory. Prerequisite: Math. 513 or departmental consent. A 20 690 0 1701

713. Abstract Algebra I. (3). A treatment of the standard basic topics in abstract algebra. Prerequisite: Math. 513 or departmental consent. A 20 713 0 1701

714. Applied Mathematics. (3). Cross-listed as Phys. 714. Prerequisite: Math. 550 or instructor's consent. A 20 714 0 1703

720. Modern Geometry. (3). A study of fundamental concepts of geometry. Prerequisite: Math. 513 or departmental consent. A 20 720 0 1701

725. Topology I. (3). An investigation of point set and algebraic topology. Prerequisite: Math. 547 or departmental consent. A 20 725 0 1701

743. Real Analysis I. (3). A study of the foundations of analysis and the fundamental results of modern real analysis. Prerequisite: Math. 547 or departmental consent. A 20 743 0 1701

745. Complex Analysis I. (3). An investigation of the theory of analytic functions. Prerequisite: Math. 545, 547 or 651, or departmental consent. A 20 745 0 1701

750. Workshop. (1-3). Topics appropriate for mathematics workshops that are not in current mathematics courses. May be repeated to a total of six hours credit with departmental consent. A 20 750 2 1701

751. Numerical Analysis I. (3). Numerical linear algebra, interpolation of functions and data, approximation of functions, numerical integration and solutions of one algebraic equation. Prerequisite: Math. 511, 547 and 561 or departmental consent. A 20 751 0 1703

752. Ordinary Differential Equations. (3). Existence, uniqueness, stability and other qualitative characteristics of ordinary differential equations. Prerequisite: Math. 525 or 545 or departmental consent. A 20 753 0 1703

755. Partial Differential Equations I and II. (3-3). A survey of some of the mathematical techniques most often needed in engineering. Math 757 includes vector analysis, linear algebra, Legendre functions and Bessel functions. Math 758 includes Fourier series, solution techniques for the partial differential equations of mathematical physics, and an introduction to complex analysis. No credit given toward a graduate degree in mathematics. (Formerly Math. 651 and 752). Prerequisite: Math. 547 or departmental consent. A 20 757 0 1703; A 20 758 0 1703

Courses for Graduate Students Only

801-802. Topics for Mathematics Teachers I and II. (3-3). Topics for secondary school mathematics teachers that relate to the secondary school mathematics curriculum. Topics are chosen according to the needs and interests of individual students. Repeatable for credit with departmental consent. Not applicable toward the MS in mathematics. A 20 801 0 1701; A 20 802 0 1701

813. Abstract Algebra II. (3). A continuation of Math. 713. Prerequisite: Math. 713 or equivalent. A 20 813 0 1701

818. Selected Topics in Number Theory. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 818 0 1701

819. Selected Topics in Algebra. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 819 0 1701

825. Topology II. (3). A continuation of Math. 725. Prerequisite: Math. 725 or equivalent. A 20 825 0 1701

828. Selected Topics in Topology. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 828 0 1701

829. Selected Topics in Geometry. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 829 0 1701

830. Selected Topics in Foundations of Mathematics. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 830 0 1701

843. Real Analysis II. (3). A continuation of Math. 743. Prerequisite: Math. 743 or equivalent. A 20 843 0 1701

845. Complex Analysis II. (3). A continuation of Math. 745. Prerequisite: Math. 745 or equivalent. A 20 845 0 1701

849. Selected Topics in Analysis. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 849 0 1701

851. Numerical Analysis II. (3). Numerical solution of ordinary and partial differential equations; unconstrained minimization of functions of "n" variables; and solutions of systems of equations. Prerequisite: Math. 751 or equivalent. A 20 851 0 1703


857-858. Selected Topics in Engineering Mathematics I and II. (3-3). Advanced mathematics in interest to engineering students, including such topics as tensor analysis, calculus of variations and partial differential equations. Not applicable toward the MS in mathematics. A 20 857 0 1703; A 20 858 0 1703

859. Selected Topics in Applied Mathematics. (2-3). Repeatable with departmental consent. A 20 859 0 1703

870. Proseminar. (1). Oral presentation of research in areas of interest to the students. Prerequisite: major standing. A 20 870 0 1701

881. Individual Reading. (1-5). Prerequisite: departmental consent. Repeatable up to a maximum of six hours with departmental consent. A 20 881 3 1701

885. Thesis. (1-4). May be repeated to a maximum of six hours credit. Prerequisite: departmental consent. A 20 885 4 1701

941-942. Applied Functional Analysis I and II. (3-3). An introduction to functional analysis and its applications. Prerequisites: Math. 943 and 755 (Math. 755 may be a corequisite). Math. 941 0 1703; A 20 942 0 1703

947-948. Mathematical Theory of Fluid Dynamics I and II. (3-3). Mechanics of fluid flow, momentum and energy principles, Navier-Stokes and Euler equations, potential flows, vortex dynamics, stability analysis and numerical methods applied to fluid dynamics. Prerequisite: Math. 745. A 20 947 0 1703; A 20 948 0 1703


952. Advanced Topics in Numerical Analysis. (3). Advanced topics of current research interest in numerical analysis. Topic will be chosen at the discretion of the instructor. Possible areas of concentration are numerical methods in ordinary differential equations, partial differential equations and linear algebra. Prerequisites: Math. 751, 851 and instructor's consent. A 20 952 0 1703

958 & 959. Selected Advanced Topics in Applied Mathematics. (3-3). Topics of current research interest in applied mathematics. Repeatable for credit with departmental consent. Prerequisite: instructor's consent. A 20 958 0 1703; A 20 959 0 1703

981. Advanced Independent Study in Applied Mathematics. (1-3). Arranged individually with an area of applied mathematics. Repeatable to a maximum of 6 hours. Prerequisite: must have passed the PhD qualifying exam and instructor's consent. A 20 981 1 0 1703

985. PhD Dissertation. (1-9). Repeatable to a maximum of 24 hours. Prerequisite: must have passed the PhD preliminary exam. A 20 985 0 1703
Statistics
No major or minor in statistics is available, but a BS degree with emphasis in statistics is offered as described under the mathematics section. Statistics courses satisfy general education requirements. As part of the 124 semester hours required for graduation, students may take up to 15 semester hours of statistics courses in addition to the 45 or 50 semester hours of course work allowed in mathematics.

Lower-Division Course

170Q. Statistics Appreciation. (3). A non-technical course stressing and explaining how statistics and probability help to solve some important problems in a variety of fields (e.g., biology, economics, education, government, health sciences, social sciences, etc.). The material is developed by examples rather than by traditional statistical methods and does not require any special knowledge of mathematics. A 20 170Q 0 1702

Upper-Division Courses

360Q. Elementary Probability. (3). Probability functions, random variables and expectation; finite sample spaces. Prerequisites: Math. 111, 112 or 331. A 20 360Q 0 1701

370. Elementary Statistics. (3). A survey of elementary descriptive statistics, binomial and normal distributions, elementary problems of statistical inference, linear correlation and regression. Not open to mathematics majors. Prerequisite: Math. 111 or equivalent, or Math. 211. A 20 370 1 1702

Courses for Graduate/Undergraduate Credit

Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

570. Special Topics in Statistics. (3). Topics of interest not otherwise available. Prerequisite: departmental consent. A 20 570 1 1702

571-572. Statistical Methods I and II. (3-3). Probability models, points and interval estimates, statistical tests of hypothesis, correlation and regression analysis, introduction to nonparametric statistical techniques, least squares, analysis of variance and topics in design of experiments. Prerequisite: Math. 144 or 243 or departmental consent. A 20 571 1 1702; A 20 572 1 1702

574. Elementary Survey Sampling. (3). A brief review of basic statistical concepts and simple random, stratified, cluster and systematic sampling; selection of sample size, ratio and estimation costs. Applications involve problems from the social and natural sciences, economics, public health and other disciplines. Prerequisite: any elementary course in statistics, such as Stat. 370, Soc. 501 or Psych. 401. A 20 574 1 1702

576. Applied Nonparametric Statistical Methods. (3). Assumptions and needs for nonparametric tests, rank tests and other nonparametric inferential techniques. Applications involve problems from engineering, medicine, education, social and natural sciences and other disciplines. Prerequisite: any elementary statistics course such as Stat. 370, Soc. 501 or Psych. 401. A 20 576 1 1702

671. Probabilistic Models and Statistical Methods. (3). A study of independent and dependent random variables; probability distributions, such as Gamma, Weibul, Beta, Normal, Binomial, etc.; reliability and life testing; and topics on statistical inference with emphasis on applications to engineering. No credits given toward a degree in mathematics. Prerequisites: Math. 344 with a grade of C or better. A 20 671 0 1702

761. Probability. (3). A study of axioms of probability, discrete and continuous random variables, expectation, examples of distribution functions, moment generating functions and sequences of random variables. Prerequisite: Math. 344 with a grade of C or better. A 20 761 0 1701

762. Applied Stochastic Processes. (3). A study of random variables, expectation, limit theorems, Markov chains and stochastic processes. Prerequisites: Stat. 661 or 771 or departmental consent. A 20 762 0 1702

771-772. Theory of Statistics I and II. (3-3). An examination of stochastic dependence, distributions of functions of random variables, limit theorems, orthogonal expansions, theory of statistical inference, nonparametric tests and analysis of variance and covariance. Prerequisite: Math. 545 or 547 with grade of C or better or departmental consent. A 20 771 0 1702; A 20 772 0 1702

Courses for Graduate Students Only

861. Theory of Probability. (3). The axiomatic foundations of probability theory will emphasize the coverage of probability measures, distribution functions, characteristic functions, random variables, modes of convergence, the law of large numbers and central limit theorem, and conditioning and the Markov property. Prerequisites: Math. 743 and Stat. 761 or 771. A 20 861 0 1701

871. Theory of Statistical Inference. (3). Course will cover asymptotic theory of maximum likelihood estimation, sufficiency and completeness and unbiased estimation, elements of decision theory and the Neyman-Pearson theory of testing hypotheses. Prerequisites: Stat. 772 and 861. A 20 871 0 1702

872-873. Theory of Linear Models I and II. (3-3). An introduction to the theory of linear models and analysis of variance. The coverage of topics will include multivariate normal distribution, distributions of quadratic forms, general linear models, general linear hypothesis, confidence regions, prediction and tolerance intervals, design models (1-factor and 2-factor), analysis of covariance and components-of-variance models. Prerequisites: Math. 511 and Stat. 772. A 20 872 0 1702; A 20 873 0 1702

874. Sampling Techniques—Theory and Application. (3). An introduction to the theory of sample surveys. Coverage will include basic concepts and theory of designing surveys; estimation of means, totals, proportions and variances; simple random sampling; stratification; cluster sampling; multistage sampling; ratio and regression methods of estimation; and survey sampling. Prerequisite: Stat. 772. A 20 874 0 1702

875. Design of Experiments. (3). A study of basic concepts of experimental design which include completely randomized design, randomized block design, randomized block design, estimation and tests, latin square design, factorial experiments, confounding, split-plot designs, incomplete block designs and intra- and inter-block information. Prerequisite: Stat. 572 or 772. A 20 875 0 1702

876. Nonparametric Methods. (3). An introduction to the theory of nonparametric statistics. Coverage will include order statistics; tests based on runs; tests of goodness of fit; rank-order statistics; one-, two- and k-sample problems; linear rank statistics; measure of association for Divariate samples; and asymptotic efficiency. Prerequisite: Stat. 772. A 20 876 0 1702

877. Multivariate Statistical Methods. (3). Elementary theory and techniques of analyzing multidimensional data which will cover Hotelling's T2, multivariate analysis of variance, principal components analysis, linear discrimination analysis, canonical correlation analysis and analysis of categorical data. Prerequisites: Math. 511 and Stat. 772. A 20 877 0 1702

878. Special Topics. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 878 0 1702

879. Individual Reading. (1-5). Prerequisite: departmental consent. A 20 879 3 1702

971 & 972. Selected Advanced Topics in Probability and Statistics. (3-3). Topics of current research interest in probability and statistics. Repeatable for credit with departmental consent. A 20 971 0 1702 & A 20 972 0 1702

978. Advanced Independent Study in Probability and Statistics. (1-3). Arranged individual directed study in an area of probability or statistics. Repeatable to a maximum of 9 hours. Prerequisites: must have passed the PhD qualifying exam and instructor's consent. A 20 978 0 1702

986. PhD Dissertation. (1-9). Repeatable to a maximum of 24 hours. Prerequisite: must have passed the PhD preliminary exam. A 20 986 0 1702

Minority Studies
The department's objective is to increase the student's cross-cultural communication skills by providing exposure to and an understanding of communication uniqueness among members of America's ethnic/cultural groups, thereby minimizing the barriers that often hamper effective cross-cultural communication.

The department offers courses and programs to stimulate favorable interaction among people, thus reducing ethnic tension. Emphasis in the department is on cross-cultural communication, which stresses the uniqueness of the individual's cultural experiences and resulting behavior which impacts communications across ethnic and cultural lines.

Major. The major in minority studies consists of at least 24 hours, including Min. Stud. 100Q; 210Q; 220, 240Q or 260; and three of the following: 331, 332, 333, 334, 337 or 540.

Certain courses in related areas that meet the particular needs of the student and are approved by an adviser may be
counted toward a major. These courses may not count for more than six hours.

Minor. A minor in minority studies consists of at least 15 hours. These courses are to be approved by the student's adviser in the department.

Lower-Division Courses

300Q. Introduction to Minority Studies. (3). Orientation to the nature and scope of minority American studies is placed on the unique nature of the experiences of minority groups in this country. A cursory examination of some alternative styles of behavior in dealing with problems peculiar to minority people in the United States is also undertaken. A 30 100Q 0 2299

210Q. Fundamentals of Cross-Cultural Communications. (3). An examination of the effects of different cultures on language and methods of communicating. A study of communications and its relationship to behavior in this country is also made. A 30 2100 0 4999

220. Martin Luther King, (3). This course provides students with a study of the life and philosophy of the Rev. Dr. Martin Luther King, Jr. Special emphasis is placed on the motivation, obstacles, and social impact of Dr. King's life on the civil rights movement and interracial relations in the United States. A 30 220 0 4999

240Q. Minority Women in America. (3). Cross-listed as WS 240. An examination of the contributions and contributions made by minority women to the American culture. An analysis of the misconception about minority women that have been generated and perpetuated through the ages by providing accurate information about their lives and attitudes. To help people relate better to minority women in America and understand their attitudes, sensibilities, and emotions. A 30 240Q 0 2296

250. Prominent Minorities in the Making of America. (3). Designed to explore, compare and contrast minority thought and processes for social, economical and political reform. Class delves into the social concepts of prominent minorities through the coverage of popular novels, biographies, autobiographies, rhetoric, etc. Prerequisite: Min. Stud. 100Q. A 30 250 0 2299

Upper-Division Courses

331. The Black Family. (3). This course examines the factual and fictional images of black American families from slavery to the present. The primary focus will be on the adaptive abilities of poor, working class and middle class black families. Prerequisites: Fr. 220, Fr. 2100 or instructor's consent. A 30 331 0 4999

332. The Native American. (3). This course examines contemporary issues facing the native American with special focus on the Osage tribe. Prerequisites: Min. Stud. 100Q, 2100 or instructor's consent. A 30 332 0 4999

333. Issues in the Chicano Community. (3). This course examines a variety of social, psychological and political concerns affecting Mexican Americans. Special attention is given to the impact of immigration and to the media's role in the portrayal of the Chicanos. Prerequisites: Min. Stud. 100Q, 2100 or instructor's consent. A 30 333 0 4999

334. European Ethnic Groups. (3). This course examines adaptation and cultural practices of European ethnic groups in America. Prerequisites: Min. Stud. 100Q, 2100 or instructor's consent. A 30 334 0 4999

337. Black/White Communication in an Organizational Setting. (3). With special focus on educational institutions and the workplace, this course examines the areas in which communication breakdowns are most likely to occur and effect. Prerequisites: Min. Stud. 100Q, 2100 or 331 or instructor's consent. A 30 337 0 4999

481. Cooperative Education. (1-4). This course allows the student to examine the impact of minorit-y status in the work environment. Interpersonal interactions, communication and acceptance in and adjustment to the multicultural work environment are examined. Offered for Cr/or CrNcr only. A 30 481 0 4999

Courses for Graduate/Undergraduate Credit

512. Issues in Minority Aging. (3). Cross-listed as WS 512. Addresses the needs and interests of students who are interested in (1) being socially committed to minority elderly, (2) exploring the "issues" of concern to minority elderly, (3) becoming familiar with the rights of older minority Americans, (4) learning the legal procedures for resolving many of the specific problems of the minority elderly, and (5) offering and tested solutions to the problems encountered by minority elderly. Prerequisites: Min. Stud. 100Q, Geron. 100, Soc. 111Q or instructor's consent. (P) 5 112 0 4999

540. Advanced Cross-Cultural Communications. (3). An advanced study on special topics in minority communication. A 30 540 0 4999

580. Individual Projects. (3). This course allows the student to conduct independent research related to a specific minority group. Prerequisite: 30 hours of Wichita State credit or departmental consent. Repeatable for a total of six hours. A 30 580 3 2299

725. Concepts of Cross-Cultural Communications. (3). A critical survey of the concepts of cross-cultural communications. An in-depth examination of the rationales used to evaluate different ethnic groups, language and behavior. This course provides a conceptual understanding of the special implications and necessary adaptations of communication between and among diverse ethnic groups in our society. A 30 725 0 4999

750. Workshop. (1-4). Workshops are focused on the nature and scope of minority studies. Emphasis is given to the unique nature of the experiences of minority students in this country. A 30 750 2 4999

Modern and Classical Languages and Literatures

The department of Modern and Classical Languages and Literatures works to instill in students an awareness and appreciation of other languages and cultures. The department grants the Bachelor of Arts degree in all languages regularly taught, the Bachelor of Arts in Secondary Education with a major in any of the languages regularly taught, the Master of Arts in Spanish, and the Master of Arts in Liberal Studies with area concentrations in French, German, Spanish, Latin or Greek.

A wide range of courses in language, literature, civilization, translation and linguistics are offered on campus as well as in summer programs in Strasbourg, France, and Puebla, Mexico. Scholarships are available for the study-abroad programs. In addition, the Eugene S. ValMarino scholarship is given to one outstanding high school senior who plans to major in any of the romance languages at Wichita State. Graduate students interested in applying for teaching assistantships and graduate research assistantships should consult the graduate catalog or the graduate coordinator.

Chinese

Lower-Division Courses

111. Elementary Chinese I. (5). This course is an introduction to the Chinese language with an emphasis on the basic elements of learning the fundamentals of speaking, understanding, reading and writing modern Chinese. A 17 111 0 1107

112. Elementary Chinese II. (5). The continuation of the introduction to the Chinese language with an emphasis on learning the fundamentals of pronunciation, speaking, understanding, reading and writing the language. Prerequisite: Chinese 111 or an equivalent learning experience. A 17 112 0 1107

220. Intermediate Chinese. (5). Continues development of speaking, reading and writing skills. Prerequisite: Chinese 112 or departmental consent. A 17 220 0 1107

French

Major. A major in French consists of a minimum of 33 semester hours beyond Fr. 112 or its equivalent, and must include the following courses: Fr. 220, 223, 227, 300, 526, 551 or 552 or equivalents. In addition, 15 hours must be selected from courses numbered above 500. No fewer than nine hours must be literature.

Related Fields. In addition to the above courses, it is strongly recommended that French majors take courses in related fields such as other foreign languages, art history, English, history and philosophy.

Student Teachers. Students who plan to teach French should consult with the department's professor in charge of teacher education early in their college careers. In addition to the major requirements, it is recommended that future teachers take courses beyond the gen-
eral education requirements in other foreign languages, history, art history, English or philosophy. It is also recommended that future French teachers spend at least a summer in a French-speaking country before student teaching.

Requirements for entering this program are:
1. Grade point average of 3.00 or higher in French
2. Special departmental approval based on demonstrated proficiency in the use of both oral and written French (not based on course grades)
3. Basic courses in education: IS 232, 234 and 333. Certification requirements are: IS 428, 433, 466E and 442F.

Minor. A minor in French consists of a minimum of 12 semester hours beyond Fr. 112 and must include Fr. 220, 223, 300 and one upper-division French course numbered 500 or above.

Native Speakers: Native and near native speakers of French are not permitted to take courses at the 100 or 200 level but must take a minimum of 12 upper-division semester hours in order to complete a major in French. These students are advised to consult with a French professor before enrolling in French courses.

High School French. Students who have completed more than two units of high school French should consult with an adviser in the French department before enrolling in French courses.

Noncredit Course
060. French for Graduate Reading Examination. (3). Offered Cr/NrC only. Open to upper-division and graduate students only. This reading course is designed to prepare students to fulfill departmental requirements of a reading knowledge of French for the master of arts or master of science. No previous knowledge of French is required. The course does not count toward a degree. A 26 060 0 1102

Lower-Division Courses
111-112. Elementary French. (5-5). An introductory course emphasizing speaking, reading, writing and grammar essentials. Daily classroom and laboratory work is required. A 26 111 0 1102; A 26 112 0 1102

150. Workshop in French. (2-4). Repeatable for credit. A 26 150 2 1102

2100. Intermediate French. (5). French review with emphasis on conversation, folklore and modern culture. Prerequisite: two units of high school French or Fr. 112 or departmental consent. A 26 2100 0 1102

215. Study Abroad. (3-6). Transfer of credit from a French-speaking university in (a) grammar, (b) conversation, (c) reading. A 26 215 0 1102

220. Intermediate French Grammar and Composition. (3). Prerequisite: Fr. 112 or departmental consent. A 26 220 0 1102

233. Intermediate French Readings I. (3). Intensive reading of French literary works of the modern period. This course may be used to meet the LAS literature requirement. Prerequisite: Fr. 112 or equivalent. A 26 223 0 1102

227. French Conversation. (1-3). Assignments to increase oral fluency. Emphasis is on learning new vocabulary and idiomatic structures. Exercises in the language laboratory. Prerequisite: Fr. 112 or equivalent. A 26 227 0 1102

Upper-Division Courses
300. Intermediate French Readings II. (3). Intensive reading and analysis of French literary works of all periods. This course may be used to meet the LAS literature requirement. Prerequisite: Fr. 223 or equivalent. A 26 300 0 1102

325. Intermediate French Conversation. (3). Continued practice in the use of the spoken language with an emphasis on developing fluency. Prerequisite: Fr. 227 or 215 or equivalent. A 26 325 0 1102

Courses for Graduate/Undergraduate Credit
Upper-division courses are given on a rotating basis. Fr. 300 is a prerequisite for all upper-division literature and civilization courses, unless otherwise indicated. All literature courses, including Fr. 223 and 300, may fulfill the general education literature requirement.

505. Advanced Phonetics and Diction. (2). Cross-listed as Ling. 505.

515. Major Topics. (1-4). Special studies in (a) language, (b) literature, (c) commercial French, (d) the language laboratory, (e) music, (f) composition, (g) problems in teaching French, (h) civilization, (i) translation, (k) conversation and (m) phonetics. Repeatable for credit. Prerequisite: departmental consent. A 26 515 0 1102

525. Advanced Conversation. (3). A course designed to increase fluency in speaking French. Assignments include oral reports, dialogs and work in the language laboratory. Prerequisite: Fr. 325 or equivalent. A 26 525 0 1102

526. Advanced Composition and Grammar. (3). Emphasis on theme writing, original compositions and detailed study of modern French grammar. Prerequisite: Fr. 220 or departmental consent. A 26 526 0 1102

540Q. French Literature in English Translation. (3). Topic varies. May be used to satisfy the general education literature requirement and may count toward a French major or minor if readings and papers are done in French. A 26 540Q 0 0312

541Q. French Literature of Africa and the Caribbean in English Translation. (3). A study of the concept of Négritude through the works of major contemporary African and Caribbean writers. No knowledge of a foreign language is necessary. This course may count toward a French major or minor if readings and papers are done in French. A 26 541Q 0 0312

550. French Civilization: The Middle Ages to the Restoration. (3). Emphasizes key aspects of the civilization of France as seen in its art, architecture, political structure and history, social evolution and intellectual traditions. This course is interdisciplinary in nature and is designed to complement studies in French language and literature. Includes slide demonstrations, guest speakers on special topics and films. Most classes and required readings are in French. Prerequisite/corequisite: Fr. 300. A 26 550 0 1105

552. Contemporary French Civilization. (3). Emphasizes the major events, themes, ideas, trends and movements in French civilization since the Revolution. The course is interdisciplinary in nature and is designed to complement French language and literature courses. Classwork and readings are in French. Prerequisite/corequisite: Fr. 300. A 26 552 0 1105

623. Seminar in French. (3). Seminar in French literature, language or civilization. Prerequisite: two literature courses in French numbered above 500. Repeatable for credit. A 26 623 0 1102

630. Medieval and Renaissance French Literature. (3). Prerequisite: Fr. 300. A 26 630 0 1102

631. 17th Century French Literature. (3). Prerequisite: Fr. 300. A 26 631 0 1102

632. 18th Century French Literature. (3). Prerequisite: Fr. 300. A 26 632 0 1102

633. 19th Century French Literature. (3). Prerequisite: Fr. 300. A 26 633 0 1102

634. Contemporary French Literature. (3). Prerequisite: Fr. 300. A 26 634 0 1102

635. Introduction to Romance Language Linguistics. Cross-listed as Span. 635 and Ling. 635. An introduction to the historical phonology and morphology of the romance languages with particular emphasis on French and Spanish. Prerequisite: departmental consent. A 26 635 0 1102

750. Workshop in French. (2-4). Repeatable for credit. A 26 750 2 1104

815. Special Studies in French. (3). Prerequisite: departmental consent. Repeatable for credit. A 26 815 0 1102

German

Major A. A major in German consists of a minimum of 24 hours beyond the level of Ger. 112. Students may select an emphasis in literature or in language as described below.

The literature emphasis is recommended for students whose concerns are primarily in the humanities or who anticipate graduate study in literature. Students must take Ger. 324, 341 or 441Q, 524, Eng. 315 and at least six hours in Ger. 650.

The language emphasis is suggested for students whose objectives are in teaching (see Major B), linguistics or in the application of language skills in support of other professional pursuits. Students must take Ger. 301, 324, 341 or 441Q, 524 and Eng. 315.

Native speakers of German are not normally permitted to enroll in 100- and 200-level German courses or to receive credit in such courses by advanced standing examination. A minimum of 18 hours in upper-division courses, including Ger. 524 and Eng. 315, is normally required for a native speaker to earn a
German major. Native speakers of German should consult with the department before enrolling in German courses.

Major B. The teaching major in German in either Fairmont College of Liberal Arts and Sciences or in the College of Education consists of at least 50 semester hours chosen from the three options below. For all categories students must have at least 24 hours in the language beyond the 112 level, as discussed earlier under Major A. In addition to the major, it is recommended that future teachers take courses beyond the general education requirements in other foreign languages, history, art history, English or philosophy.

Students who wish to enter the student teaching program should consult with the department's professor in charge of teacher education early in their college careers. Requirements for entering the student teaching semester include:

1. Grade point average in German of 3.00 or above
2. Special departmental approval based on demonstrated competencies in the use of both oral and written German (not based on course grades)

Minor. A minor in German consists of 11 hours beyond the 112 level. Students are permitted to count no more than one of the following for minor credit: Ger. 341, 4410 or 641.

Noncredit Course

010. German for Graduate Reading Examination. (3). A reading course designed to prepare students to fulfill departmental requirements of a reading knowledge of German for the master of arts or master of science. No previous knowledge of German is required. This course does not count toward a degree. Offered Cr/NC only. A 17 010 0 1103

Lower-Division Courses

101. Beginning German. (3). An introductory course for acquiring practical skill in speaking and understanding everyday German as well as general information concerning German-speaking countries. Does not substitute for Ger. 111. A 17 101 0 1103

102. Beginning German II. (3). A continuation of Ger. 101. For acquiring practical skill in speaking and understanding everyday German as well as general information concerning contemporary German-speaking countries. Does not substitute for Ger. 112. Prerequisite: Ger. 101. A 17 102 0 1103

111-112. Elementary German. (5-5). An introductory course emphasizing speaking, reading, writing and grammar essentials. Daily classroom and laboratory work is required. A 17 111 0 1103; A 17 112 0 1103

220Q. Continuaing German. (5). Grammar review and cultural readings designed primarily for students meeting the foreign language graduation requirement of Fairmont College of Liberal Arts and Sciences. Recommended for all students with high school German and for transfer students with the college German equivalent to 112. A 17 220Q 0 1103

223. Intermediate German I. (3). Intensive reading and discussion of short works. Prerequisite: Ger. 112 with grade of C or better or departmental recommendation to transfer from Ger. 2200. A 17 223 0 1103

225. German Conversation. (2). Development of oral fluency. Prerequisite: Ger. 2200 or 223. May be taken concurrently with Ger. 223. A 17 225 0 1103

Upper-Division Courses

301. German Phonetics and Pronunciation. (1). A practical course to improve pronunciation of individual speech sounds as well as intonation and rhythm of sentences. Prerequisite: Ger. 112 or instructor's consent. A 17 301 0 1103

324. Intermediate Conversation and Composition. (2). Development of written skills is emphasized as conversational practice continues. Prerequisite: Ger. 225 or instructor's consent. A 17 324 0 1103

341. Civilization of the German-Speaking Countries. (3). Selected topics on significant aspects of life and thought in Germany, Austria and Switzerland. The emphasis is on the modern period with special attention paid to the interrelation of cultural trends. A knowledge of German is not required. A 17 341 0 0312

344Q. Intermediate German II. (3). Readings in German civilization accompanied by extensive studies of selected literary works. Prerequisite: Ger. 223 or equivalent. A 17 344Q 0 1103

441Q. Culture of the Two Germanies. (3). Study of the culture and life in the Federal Republic of Germany and the German Democratic Republic since 1945. A knowledge of German is not required. Does not count toward fulfillment of language requirement. A 17 441Q 0 1103

Courses for Graduate/Undergraduate Credit

524. Advanced Conversation and Composition. (3). Prerequisites: Ger. 324 or instructor's consent. A 17 524 0 1103

641. German Literature in Translation. (3). Consideration of the works of one major author, literary movement, trend or specific genre. Repeatable once for credit. Prerequisite: upper-division standing. A 17 641 0 0312

650. Directed Study. (1-3). Enrollment in any of the areas listed takes place only upon consultation with the department and agreement with the instructor concerned: (a) introduction to the study of German literature; (b) survey I: from the medieval period through the Age of Goethe; (c) survey II: 19th century to 1945; (d) contemporary literature; the literature of both Germanies since 1945; (e) special topics in literature, repeatable once for credit; (f) special topics in language, repeatable once for credit. Prerequisite: Ger. 244 or instructor's consent. A 17 650 0 1103

750. Workshop in German. (2-4). Repeatable once for credit. A 17 750 2 1103

Greek (Ancient Classical)

There is no major in Greek. A minor consists of 11 hours beyond the 111-112 level.

Lower-Division Courses

111-112. Elementary Greek. (5-5). Basic grammar with emphasis on early reading. A 26 111 0 1110; A 26 112 0 1110

223. Intermediate Greek. (3). Plato and Herodotus. Prerequisite: Greek 111-112. A 26 223 0 1110

224. Intermediate Greek. (3). Homer's Iliad. Prerequisite: Greek 223. A 26 224 0 1110

Upper-Division Course

350Q. Classical Culture. (3). Study of representative masterpieces of Greek and Latin literary, historical and philosophical literature in the wider context of classical culture, including art, mythology, religion and political and private life. All works are in translation and no knowledge of Latin or Greek is required. Applies toward a major in classical studies, but not toward a minor in Latin or Greek. A 26 350Q 0 1110

Courses for Graduate/Undergraduate Credit

515. Special Studies. (1-4). Topic announced by instructor. Repeatable for credit. Prerequisite: Greek 224 or instructor's consent. A 26 515 0 1110

531. Advanced Greek. (3). Sochoches and Euripides. Prerequisite: Greek 224. A 26 531 0 1110

532. Advanced Greek. (3). Thucydides. Prerequisite: Greek 531. A 26 532 0 1110

Italian

There is no major in Italian. A minor in Italian consists of 12 hours beyond the 111-112 level and must include Ital. 515.

Lower-Division Courses

111-112. Elementary Italian. (5-5). Fundamentals of pronunciation and practice in speaking, understanding, reading and writing. A 26 111 0 1104; A 26 112 0 1104

220. Intermediate Italian Grammar and Composition. (3). Prerequisite: Ital. 112 or equivalent. A 26 220 0 1104

223-224. Selected Italian Readings. (3-3). Intensive reading of Italian literary works. Discussions in Italian, as well as oral and written summaries, are featured. Prerequisite: Ital. 112 or two units of high school Italian for Ital. 223; Ital. 223 or three high school units for Ital. 224. A 26 223 0 1104; A 26 224 0 1104

225. Intermediate Conversation. (2). Prerequisite: Ital. 112 or departmental consent. A 26 225 0 1104

Courses for Graduate/Undergraduate Credit

515. Major Topics. (2-4). Special studies in Italian language, literature and civilization. Repeatable for credit. Prerequisite: departmental consent. A 26 515 0 1104

Greek (Ancient Classical)

There is no major in Greek. A minor consists of 11 hours beyond the 111-112 level.
Japanese

Lower-Division Courses

111. Elementary Japanese I. (5). This course is an introduction to the Japanese language with an emphasis on the basic elements of learning the fundamentals of pronunciation, speaking, understanding, reading and writing the language. A 17 111 0 1108

112. Elementary Japanese II. (5). This course is a continuation of introductory Japanese with an emphasis on learning the fundamentals of pronunciation, speaking, understanding, reading and writing. Prerequisite: Japanese 111 or an equivalent learning experience. A 17 112 0 1108

220. Intermediate Japanese. (5). Continues development of speaking, reading and writing skills. Prerequisite: Japanese 112 or departmental consent. A 17 220 0 1108

Latin

Major A. A major in Latin consists of a minimum of 24 hours beyond Latin 112 or its equivalent, and must include at least nine hours of upper-division courses. Courses in Greek, ancient history, Greek philosophy or ancient art are strongly recommended for all majors.

Major B. The teaching major in Latin either Fairmount College of Liberal Arts and Sciences or in the College of Education consists of at least 50 semester hours, including at least 24 hours beyond Latin 111-112 as listed under Major A.

In addition to the major, it is recommended that future teachers take courses beyond the general education requirements in other foreign languages, history, art history, English or philosophy.

Students who wish to enter the student teaching program should consult with the department's professor in charge of teacher education early in their college careers. Requirements for entering the student teaching semester are:

1. Grade point average of 3.000 or higher in Latin
2. Special departmental approval based on demonstrated competencies in the use of Latin (not based on course grades)
3. Basic courses in education: IS 232, 234 and 333. Certification requirements are: IS 428, 433, 466E and 442F.

Minor. A minor in Latin consists of a minimum of 11 hours beyond the 112 level and must include at least one 500-level course.

Lower-Division Courses

111-112. Elementary Latin. (5-5). Basic grammar with emphasis on early reading. A 26 111 0 1109; A 26 112 0 1109

150. Workshop in Latin. (2-4). Repeatable for credit. A 26 150 2 1109

223. Intermediate Latin. (3). General review of grammar with selected readings of prose and poetry. Prerequisite: Latin 112, two years of high school Latin or departmental consent. A 26 223 0 1109

224. Intermediate Latin. (3). Selected readings of prose and poetry. May be repeated for credit when the readings vary. Prerequisite: Latin 223 or departmental consent. A 26 224 0 1109

Courses for Graduate/Undergraduate Credit

541. Roman Lyric Poetry. (3). The lyric poems of Catullus and Horace with emphasis on imagery, symbolism, structure, diction and meter. A 26 541 0 1109

542. Vergil's Aeneid. (3). Selected books of the Aeneid in the original and the rest in translation. Study of imagery, symbolism, structure, meter and diction. Consideration is given to the place of the Aeneid in the Augustan Rome and in the epic tradition. A 26 542 0 1109

543. Roman Dramas. (3). A study of Roman comedy and tragedy, their Greek background and their influence on European literature. Included are selected plays of Plautus, Terence and Seneca, some in the original and some in translation. A 26 543 0 1109

544. Love in Ancient Rome. (3). The relationship of the sexes and the use of myth in the poetry of Ovid, Propertius and Tibullus. A 26 544 0 1109

545. The Roman Novel. (3). Reading of the Satyricon of Petronius and the Golden Ass of Apuleius. The portions that are not read in Latin are read in English. Consideration is given to the development of the novel from its Greek beginnings up to the time of Apuleius and beyond. A 26 545 0 1109

546. Advanced Latin. (3). Directed reading of Latin. Reading may be combined with Latin prose composition at the option of the student. Repeatable for credit when content varies. A 26 546 0 1109

651. Roman Historians. (3). A study of the development of Roman historiography. Readings from Sallust, Caesar, Livy and Tacitus. A 26 651 0 1109

652. Cicero. (3). The orations, letters and essays of Cicero. The study concentrates on Cicero as the master of Latin prose and as one of the most important political figures of the fall of the Roman Republic. A 26 652 0 1109

653. Lucretius and Epicureanism. (3). Reading of Lucretius De Rerum Natura and study of Epicureanism, the atomic theory and Democritan materialism. Consideration is given to the place of Lucretius in Latin poetry. A 26 653 0 1109

750. Workshop in Latin. (2-4). Repeatable for credit. A 26 750 2 1109

Portuguese

No major or minor is offered in Portuguese.

Noncredit Course

060. Reading Portuguese. (2). Offered Cr/Ncr only. Open to upper-division or graduate students who need to fulfill departmental requirements of a reading knowledge of a foreign language for the master of arts or master of science. No previous knowledge of Portuguese required. Does not count toward a degree. A 26 060 0 1120

Russian

There is no major or minor in Russian.

Lower-Division Courses

111. Elementary Russian. (5). A presentation of the sounds and structure of Russian with the purpose of developing the four basic skills of understanding, speaking, reading and writing. A 17 111 0 1106

112. Elementary Russian. (5). A continuation of Russian 111 in order to complete the presentation of elementary Russian grammar and enhance the four basic skills. Prerequisite: Russian 111 or equivalent. A 17 112 0 1106

210. Intermediate Russian. (5). Cultural readings and grammar review presented adiinguinally and designed to enhance the four skills of understanding, speaking, reading and writing. Prerequisite: Russian 112 or equivalent. A 17 210 0 1106

225. Russian Conversation and Composition. (3). Development of oral and written skills. Prerequisite: Russian 112 or instructor's consent. A 17 225 0 1106

Upper-Division Courses

300. Russian Literature in Translation. (3). Consideration of the works of one or two major authors, a literary movement, trend or a specific genre. No knowledge of Russian is necessary. Repeatable once for credit. A 17 300 0 1106

315. Special Studies. (1-3). Special studies in Russian language, literature and civilization. Repeatable for credit. Prerequisite: departmental consent. A 17 315 0 1106

Spanish

Major. A major in Spanish consists of a minimum of 30 semester hours beyond Span. 111-112. There are three available options for majors. Basic to all three are the following courses: Span. 220, 223, 225, 300, 325, 525 and 526, or equivalents.

Literature. In addition to the above courses, a major emphasizing Hispanic literature requires 12 hours of upper-division literature and/or linguistics. Language and Civilization. In addition to the basic courses listed above, a major with an emphasis in language and civilization requires 12 hours selected from the following courses: Span. 555, 515 or 622 (for students of Spanish), 552, 557, 626 and 627, or equivalents.

Teaching. The major with teaching emphasis in Spanish in either the Fairmount College of Liberal Arts and
Sciences or the College of Education consists of at least 30 hours beyond Span. 112 or its equivalent. These hours must include the basic hours listed above plus a minimum of 12 upper-division hours, six of these chosen from the language major and six from the literature major. Span. 623 may substitute for 526.

In addition to the major, it is recommended that future teachers take courses beyond the general education requirements in other foreign languages, history, art history, English or philosophy.

Students who wish to enter the student teaching program must have a 3.00 grade point average in Spanish and departmental approval based on demonstrated proficiency in the use of both oral and written Spanish in order to be admitted to the professional semester. It is strongly recommended that teaching majors take Span. 505 and/or 623. IS 442F, 428, 433 and 466E are required of all majors and minors seeking a teaching certificate.

Majors interested in teaching Spanish at the elementary school level should consult the department’s professor in charge of teacher education.

Minor. A minor in Spanish consists of a minimum of 11 hours beyond the Span. 111-112 level and must include Span. 220, 223, 225 and one course at the 500 level or above.

Related Fields. Courses in Spanish or Latin American history, political science, economics or art are strongly recommended for all majors. With departmental approval courses in related fields taken in The Wichita State University Summer Program in Mexico may count toward the Spanish major.

Native Speakers. Native speakers are those who have completed a substantial amount of their education in a Spanish-speaking country. Native speakers of Spanish are normally not admitted to 100- and 200-level courses. To complete a major, 12 hours of upper-division work is required.

High School Spanish. Students who have completed more than two units of high school Spanish should consult with an adviser in the Spanish department before enrolling in Spanish courses.

Lower-Division Courses

111-112, Elementary Spanish. (5-5). Lab fee. Emphasis on the four fundamental skills in language learning: understanding, speaking, reading and writing. A 26 111 0 1105; A 26 112 0 1105

150. Workshop in Spanish. (2-4). Repeatable for credit. A 26 150 0 1105

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of lab.

210Q. Intermediate Spanish. (5). Spanish review with emphasis on conversation and cultural readings. Not open to students with previous credit in Span. 221 (not offered any more). Designed primarily for students wishing to fulfill the liberal arts language requirement. It is recommended that prospective majors and minors go directly into Span. 220, 223 or 525. Prerequisite: Span. 112, two units of high school Spanish or departmental consent. A 26 210Q 0 1105

215. Intermediate Spanish II. (5) Intensive review of Spanish with special emphasis on conversation. Course offered only in Puebla, Mexico. Prerequisite: Span. 112, two units of high school Spanish or departmental consent. A 26 215 0 1105

220. Intermediate Spanish Grammar and Composition. (3). Prerequisite: Span. 112 or two units of high school Spanish. A 26 220 0 1105

223. Selected Spanish Readings. (3). Intensive reading of Latin American and Spanish literature with outside readings and reports. This course may be used to meet the LAS literature requirement. Prerequisite: Span. 112 or two high school units of Spanish. A 26 223 0 1105

225. Spanish Conversation I. (2). Prerequisite: Span. 112 or two units of high school Spanish. Should be taken with Span. 220. A 26 225 0 1105

281. Cooperative Education. (1-4). The goal of this course is to provide the student with a field placement which integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated. Prerequisite: Span. 223. Offered Cr/NCr only. A 26 281 2 1105

Upper-Division Courses

300. Intermediate Spanish Readings. (3). Intensive reading and analysis of Spanish literary works of all periods. This course may be used to meet the LAS literature requirement. Prerequisite: Span. 220 or departmental consent. A 26 300 0 1105

325. Spanish Conversation II. (2). Continuation of Spanish Conversation I with continued emphasis on fluency in Spanish and on vocabulary building. Prerequisite: Span. 225 or departmental consent. A 26 325 0 1105

481. Cooperative Education. (1-4). See Span. 281. A 26 481 2 1105

Courses for Graduate/Undergraduate Credit

505. Spanish Phonetics. (2). Cross-listed as Ling. 505. Prerequisite: any 200-level course or departmental consent. A 26 505 0 1105

515. Major Topics. (1-4). Special studies in (a) language, (b) literary reports, (c) commercial Spanish, (d) the language laboratory, (e) music, (f) composition, (i) problems in teaching Spanish, (l) advanced conversation. Repeatable for credit. Prerequisite: departmental consent. A 26 515 0 1105

525. Spanish Conversation II. (2). Prerequisite: Span. 225 or departmental consent. A 26 525 0 1105

526. Advanced Grammar and Composition. (3). Prerequisite: Span. 220 or departmental consent. A 26 526 0 1105

531. Survey of Spanish Literature. (3). Main currents of Spanish literature from 1700 to the present. Prerequisite: Span. 300 or departmental consent. A 26 531 0 1105

532. Survey of Spanish Literature. (3). Spanish literature from the beginning to 1700. Prerequisite: Span. 300 or departmental consent. A 26 532 0 1105

534. Contemporary Spanish Theater. (3). Prerequisite: Span. 300 or departmental consent. A 26 534 0 1105

536. Contemporary Spanish Novel. (3). Prerequisite: Span. 300 or departmental consent. A 26 536 0 1105

540Q. Contemporary Spanish Literature in English Translation. (3). Course content may vary from semester to semester, including Spanish and/or Latin American literature. No knowledge of a foreign language is necessary. This course may count towards a Spanish major or minor with departmental consent. Repeatable for credit. Prerequisite: departmental consent when counted toward a Spanish major or minor. A 26 540Q 0 1105

552. Business Spanish. (3). This course provides students the opportunity to learn and practice commercial correspondence, business vocabulary, translation and interpretation of business texts. Prerequisite: Span. 526. A 26 552 0 1105

557. Literary and Technical Translating. (3). Extensive translation of literary works and technical and legal documents from Spanish to English and English to Spanish. Prerequisite: Span. 526 or departmental consent. A 26 557 0 1105

560. Spanish Play Production. (1-3). In-depth study of a play as a work of literature, followed by the actual production of the work for the general public. Repeatable for credit. Prerequisite: Span. 300 or departmental consent. A 26 560 0 1105

620. Survey of Latin American Literature. (3). Main currents of Latin American literature from 1500 to 1800. Prerequisite: Span. 300 or departmental consent. A 26 620 0 1105

621. Survey of Latin American Literature. (3). Main currents of Latin American literature from 1800 to present. Prerequisite: Span. 300 or departmental consent. A 26 621 0 1105

622. Special Studies. (1-4). Topic for study, including the historical and geographical factors in the elementary and secondary schools. Repeatable for credit. Prerequisite: instructor’s consent. A 26 622 0 1105

623. Seminar in Spanish. (1-5). Special studies in (a) language, (b) Spanish and Latin American literature, (c) Spanish and Latin American culture and civilization and (d) methods of teaching Spanish in the elementary and secondary schools. Repeatable for credit. Prerequisite: departmental consent. A 26 623 0 1105

625. Contemporary Latin-American Novel. (3). Prerequisite: Span. 300 or departmental consent. A 26 625 0 1105

626. Spanish Civilization. (3). Intensive study of Spanish culture, including historical and geographical factors in its development and its contributions to world civilization. Portuguese civilization also is considered. A 26 626 0 1105

627. Latin-American Civilization. (3). Intensive study of Latin American culture, including historical and geographical factors in its development and its contributions to world civilization. A 26 627 0 1105
628. Contemporary Latin-American Theater. (3). A study of contemporary theater from Latin America. Prerequisite: Span 300 or departmental consent. A 26 628 0 1105

630. Society and the Artist in Latin America. (3). Latin American culture, social structure and the role of the artist in modern Latin America. Prerequisite: Span 300 or departmental consent. A 26 630 0 1105

631. Latin-American Short Story. (3). Study of the main writers in contemporary Latin American literature. Prerequisite: Span 300 or departmental consent. A 26 631 0 1105

635. Introduction to Romance Linguistics. (3). Cross-listed as Fr 635 and Ling 635. An introduction primarily to the historical phonology and morphology of the Romance languages with particular emphasis on French and Spanish. Prerequisite: departmental consent. A 26 635 0 1105

720. Theory and Practice for University Teaching. (2). A course dealing with recent theories of language acquisition and their application to the teaching of Spanish. Required for teaching assistants. Prerequisite: graduate standing. A 26 720 0 1105

750. Workshop in Spanish. (2-4). Repeatable for credit. A 26 750 2 1105

Courses for Graduate Students Only

801. Spanish Linguistics. (3). Historical and structural study of the Spanish language. A 26 801 0 1105

805. Directed Readings. (1-4). Readings vary according to the student's preparation. Preparation of reports, literary critiques and special projects in linguistics are included. A 26 805 3 1105

826. Grammar and Stylistics. (3). Intensive study of advanced grammar and stylistic usage. A 26 826 0 1105

831. Seminar in Spanish Literature. (3). (a) Middle Ages, (b) Renaissance, (c) Golden Age theater, (d) 19th and 20th centuries, (e) modern novel, (f) Generation of 1968, (g) contemporary novel, (h) 20th century theater, (i) Spanish romanticism, (j) 20th century poetry and (k) literary criticism. A 26 831 9 1105

832. Seminar in Latin American Literature. (3). (a) colonial period, (b) contemporary novel, (c) short story, (d) poetry, (e) modernism, (f) essay and (i) theater A 26 832 9 1105

Philosophy

The study of philosophy is relevant to all aspects of life and can be pursued fruitfully at many levels. Philosophical thought may direct itself to such diverse topics as the nature of reality, the conditions of knowledge, the justifications for political authority, the reality of subatomic particles, the existence of God, the criteria of aesthetic evaluation, the structure of logical reasoning and the foundations (if any) of morality. Because of the breadth of the philosophical enterprise, the study of philosophy can be approached from many directions and need not involve a hierarchy of prerequisites. Philosophy majors pursue many careers—teaching, law, medicine, city management, carpentry and sales. The philosophy department reflects the breadth and diversity of the philosophical enterprise and offers a wide variety of courses.

Major. A major requires a minimum of 27 hours of philosophy courses, at least 15 of which must be in courses numbered 300 or above. Each philosophy major must meet with a departmental advisor at least once a semester to plan or review a program of study. These programs are designed in terms of the individual student's interests and future plans. Up to 12 hours of philosophy courses taken before the decision to major in philosophy may count toward a major. Additional hours may be counted with the advisor's consent.

Minor. A minor consists of 15 hours of philosophy courses, selected in consultation with the departmental advisor that orient students to the philosophical aspects of their major fields.

Lower-Division Courses

100G. The Meaning of Philosophy. (3). An exploration of the meaning of philosophical activity. Through an examination of several basic interpretations of the distinguishing intensions, characteristic procedures and essential functions of the philosophical endeavor, this course seeks to introduce the student to some of the fundamental problems and possible values of philosophy. The underlying purpose of this course is to develop in the student a broad understanding of the meaning of philosophy as a diverse and self-critical historical enterprise. A 24 100G 0 1509

125Q. Thinking Straight. (3). This course deals with the concepts and techniques in evaluating and criticizing ordinary inferences and arguments. Some elementary systems of formal logic are studied. Considerable emphasis is placed on the analysis and evaluation of arguments found in such diverse fields as law, politics, education, advertising and religion. A 24 125Q 0 1509

129. University Experience, (3). An examination of the structure, process and problems of university education in the contemporary setting. This course affords the personal, moral and spiritual problems and opportunities presented by the modern university experience. It seeks to provide clarification and guidance toward the student and in choosing one's own future. A 24 129 0 1509

144Q. Moral Issues. (3). An introduction to philosophical thought about ethics. A number of contemporary moral issues are discussed and various philosophical approaches to their solutions considered. A 24 144Q 0 1509

Upper-Division Courses

300G. Science and the Modern World. (3). The aim of this course is to develop an understanding of the methods and accomplishments of science and how these have affected the way people understand themselves, society and the universe. The approach is both historical, with respect to the re-creation of the prescientific world view and the developments of science, and analytic with respect to understanding the goals, methods and limitations of scientific inference. No prerequisite but prior completion of general education requirements in science is desirable. A 24 300G 0 1509

301. Language and Philosophy. (3). Cross-listed as Ling 301. This course examines the relationship between language and philosophy. It focuses on questions such as: What is the relation between language and thought? Language and the world? What can be known about language? How can a study of language contribute to the resolution of philosophical problems? A 24 301 0 1509

303Q. Nineteenth Century Philosophy. (3). A study of selected 19th century philosophers or systems of thought such as Fichte, Schelling, Hegel, Schopenhauer, Marx, Mill, Bradley, Kierkegaard, Nietzsche, Comte, Dithey, Schleiermacher, idealism, materialism, positivism, empiricism and pragmatism. A 24 303Q 0 1509

305. Business Ethics. (3). An examination of moral issues that arise within the context of business and business practice. The course is designed for a general audience as well as the business or philosophy student. Attention is devoted to such topics as the ethical implications of investment/production/distribution, the nature and justification of punishment, the relationship between morality and legality, the justification of civil disobedience, the limits of legal constraints on the individual and the nature of moral and political responsibility. A 24 305 0 1509

308. Philosophy of Economics. (3). The objective of this course is to investigate various philosophical conceptions of economic theory and decision making. Philosophical problems discussed include concepts of rationality, decision theory, economic freedom, economic justice, morality and markets and the methodology and presuppositions of economic inquiry. A 24 308 0 1509

311. Philosophy of Law. (3). An introduction to philosophical problems arising in the theory and practice of law. Topics include the nature and function of legal systems, the relationship between morality and legality, the justification of civil disobedience, the limits of legal constraints on the individual and the nature of moral and political responsibility. A 24 311 0 1509

313Q. Political Philosophy. (3). An examination of various philosophical questions concerning political systems and issues such as the nature of political authority, the rights of individuals, constitutionalism and civil disobedience are discussed. A 24 313Q 0 1509

315Q. Late Modern Philosophy. (3). A study of philosophical thought in the 18th century, with special emphasis on works such as Berkeley, Hume, Reid, Adam Smith, Butler, Hutcheson, Wolff and Kant, and movements such as empiricism, rationalism, the Scottish common-sense school and idealism. A 24 315Q 0 1509

320. Philosophy of Science. (3). A study of the methods, goals and world views of the sciences with attention to such topics as the structure and evaluation of scientific theories, the nature of explanation, the dynamics of scientific revolutions and the impact of science on human society and values. A 24 320 0 1509
3320. Early Modern Philosophy. (3). A study of philosophical thought in the period from the Renaissance through the seventeenth century with selections from philosophers such as Spinoza, Leibniz, Hume, Berkeley, Hume, and Locke. A 24 322Q 0 1509

325. Formal Logic. (3). Cross-listed as Ling. 325. A study of systems of formal logic in the terms of classical logic, modal logic, and non-classical logics. The uses of these systems in the analysis of arguments is emphasized. A 24 325 0 1509

327. Philosophy of Health Care. (3). An examination of the philosophical and ethical issues generated by the development and expansion of the health care professions. The emphasis is on the special type of literature—philosophy that is concerned with conceptual and moral issues surrounding the control and ownership of software, and the justification of regulation of use and sale of computer technology. Prerequisite: junior standing or departmental consent. A 24 327 0 1509

3310. Ancient Greek Philosophy. (3). An examination of the development of Greek philosophy in its major phases, including an exploration of logic, mathematics, metaphysics, and ethics. The problems of the mind, knowledge, and the nature of God are examined. Prerequisite: instructor's consent. A 24 3310 0 1509

338. Philosophy of Feminism. (3). Cross-listed as WS 338. An exploration of philosophical issues raised by the feminist movement with emphasis on conceptual and ethical questions. A 24 338 0 1509

3460. Philosophy of Religion. (3). Cross-listed as Rel. 346. An examination of some basic religious problems such as the nature and grounds of religious belief, religious language, the nature and grounds of religious knowledge, and the nature of God human immortality and the problem of evil. A 24 3460 0 1509

354. Ethics and Computers (3). A course in ethics with application to the ethical issues which may arise from the use of computers. Attention will be devoted to such specific topics as the moral responsibility of computer professionals for the effect their work has on persons and society, the moral obligations of a computer professional to clients, employers, and society; the concept and ethical issues surrounding the control and ownership of software; and the justification of regulation of use of computer technology. Prerequisite: junior standing or departmental consent. A 24 354 0 1509

360. Ethical Theory. (3). A study of selected topics in ethics. Issues such as the meaning and justification of moral judgments, the nature of morality, the relations between normative categories and the concept of justice, and the problem of revolution in moral schemes are selected for investigation. Prerequisite: one course in philosophy. A 24 360 0 1509

366. Philosophy of Literature. (3). An exploration of the philosophic themes present in literature. Attention is devoted to literature as an aesthetic phenomenon and the associated problems of the essential nature of literature as a particular art form, the authenticity of literature, the concept of appreciation and as knowledge. Emphasis is on the special type of literature—poetry, drama, the novel, the short story—is the instructor's choice. A 24 366 0 1509

375. Philosophy of the Arts. (3). An intensive examination of one or more fundamental problems or themes in the philosophy of art or in the special aesthetics of painting, music, sculpture, literature, drama, movies, etc. Some topics are the problem of tragedy, the character of the aesthetic attitude, the function of the arts, the legitimacy of general art theory, the theoretical problem of art, the creative act and art, and art and life and the nature and function of art criticism. A 24 375 0 1509

400. Honors Seminar (3). Cross-listed as Hon 400. This is an honors course on a special topic, to be announced. Repeatable for credit up to six hours. Prerequisite: honors student or departmental consent. A 24 400 0 1509

Courses for Graduate/Undergraduate Credit

505. Philosophy of Education. (3). An examination of educational concepts with an emphasis on the implications of such concepts with respect to the problems of moral, political and religious education in a secular, democratic society. A 24 505 0 1509

518. Recent British-American Philosophy. (3). Examination of philosophical ideas and movements in recent British and American philosophy. Prerequisites: instructor's consent. A 24 518 0 1509

519. Empiricism. (3). A study of the philosophical views that emphasize sensory experience rather than reasoning as a source of knowledge with particular attention paid to the philosophers of Hobbes, Locke, Berkeley, Hume and Mill. A 24 519 0 1509

540. Theory of Knowledge. (3). A critical examination of the nature of knowledge and of the philosophical problems concerning skepticism; knowledge of the self; material objects in the past, present and future; universals and necessary truths. Selections from both historical and recent writings are included. Prerequisite: one course in philosophy. A 24 540 0 1509

546. Rationalism. (3). A study of the philosophical views that emphasize reasoning rather than sensory experience as the source of knowledge with particular attention paid to the philosophers of Descartes, Spinoza and Leibniz. A 24 546 0 1509

549. Topics in Ancient Philosophy. (3). In each offering this course explores one distinctive issue in philosophy from the time of Thales through the Stoics. The examination of an issue may confine itself to one period within the total span of ancient philosophy or it may trace the issue throughout the span, indicating its contemporary treatment. Some of the issues treated are: the nature of what is, the concept of the sacred, the meaning of truth, the relation of invariance and process, the existence of universal standards of thought and conduct, the problem of knowledge, skepticism, the nature of language and the character of philosophical inquiry. A 24 549 0 1509

550. Metaphysics. (3). An exploration of some fundamental metaphysical areas. Issues include such notions as space, time, substance, causality, particulars, universals, appearance, essence and being. Prerequisite: one course in philosophy. A 24 550 0 1509

555. Philosophy of the Social Sciences. (3). A study of such topics as the relations of social science with natural science and philosophy, methodological problems peculiar to social science, the nature of social explanation, concepts and constructs and the roles of mathematics and formal theories in social science. A 24 555 0 1509

557. Contemporary European Philosophy. (3). An exploration of a theme, issue, philosopher or movement in contemporary European philosophy. Philosophers considered include such figures as Nietzsche, Heidegger, James Brown, Habermas, Marx, Adorno, Bergson, Sartre, Merleau-Ponty, Bachelard, Lacan, Derrida, Foucault and Ricoeur. Philosophical movements examined include such trends as the phenomenology of idealism, existentialism, structuralism, process philosophy, hermeneutics and Marxism. A 24 557 0 1509

574. Artificial Intelligence and Philosophy. (3). Cross-listed as CS 574. Transfer of ideas between artificial intelligence and philosophy—concepts and techniques of artificial intelligence and their application in philosophy (search, heuristic, problem solving, knowledge representation, learning, discovering), sources of insight for artificial intelligence in different branches of philosophy. The analogy between minds and computers, "cognition is a computer," "a computer is a philosopher" contrasted with "there are real features not accessible to computation." The relevance of Goedel's theorem and of other results in the domain of computability are discussed in this context. Prerequisites: At least one 300-level course in computer science or philosophy. Math. 243 and five hours toward the major in any one of the physical or biological sciences with grades of C or better or departmental consent. A 24 574 0 1509

585. Studies in a Major Philosopher. (3). A concentrated study of the thought of one major philosopher announced by the instructor when the course is scheduled. Repeatable for credit. Prerequisite: instructor's consent. A 24 585 0 1509

590. Special Studies. (3). Topic for study announced by instructor. Repeatable for credit. Prerequisite: instructor's consent. A 24 590 0 1509

699. Directed Readings. (2-3). A course designed for the student interested in doing independent study and research in a special area of interest. May be repeated for credit. Prerequisite: departmental consent. A 24 699 0 1509

850. Directed Readings. (3). Designed for the graduate student desiring independent study and research in an area of special interest. May be repeated for credit. Prerequisite: departmental consent. A 24 850 3 1509

Physics

The Department of Physics offers a flexible and challenging undergraduate program of study leading to the Bachelor of Arts (BA) degree or the Bachelor of Science (BS) degree and a graduate program leading to the Master of Science (MS) degree.

The curriculum of the department includes the traditional core physics courses as well as providing the opportunity for the student to explore areas of individual interest through special projects.
Major. The following courses are required for a physics major: Phys. 213Q, 214Q or 313Q-314Q-3150-316Q, 551, 51, 61, 621 and 631-632; Math. 550 and 545, 547 or 651; and five hours of chemistry.

For the Bachelor of Arts (BA) degree, two hours of Phys. 516 or 517 are required. Six additional hours of upper-division physics are also required.

For the Bachelor of Science (BS) degree, four hours of Phys. 516, two hours of Phys. 517, eight additional hours of upper-division physics and five additional hours of chemistry are required. Ten hours of a foreign language also are required for the BS.

Chemical Physics Option. A student majoring in physics may select a chemical physics option. This option consists of the BS or BA requirements in physics, with Phys. 642 chosen as an elective, plus six hours of chemistry beyond the 111-112 sequence, to be chosen from Chem. 545, 546, 641 or 741.

Other Options. Other programs are available which provide the student an opportunity to combine the study of physics with an interest in another area. On an individual basis, students have included interests in astronomy, engineering, geology, computer science, biological sciences and education.

Minor. A minor in physics consists of Phys. 213Q-214Q or 313Q-314Q-3150-316Q and at least six additional hours of upper-division physics.

Lower-Division Courses

111Q. Introductory Physics. (4). 3R; 3L. A general physics course for liberal arts students and those who have not had physics in high school. Topics include mechanics, heat, electricity and magnetism, wave phenomena and modern physics. Not open to students who can meet prerequisites for Phys. 313Q. Prerequisite: one year of high school algebra. A 21 1110 1952

131. Physics for the Health Sciences. (3). This course provides a background in basic physics for students in health-related professions. The choice of topics, the emphasis on problems and the detailed applications are directed toward the special uses of physics in the health sciences. A 21 131 0 1992

195Q. Introduction to Modern Astronomy. (3). A survey of astronomy intended for the student with little or no background in science or math. The nature and evolution of the universe and objects in it are considered from the perspective of the question: Why do things happen the way they do? Individual topics which may be included are: comparison of the planets, stars and black holes, galaxies and quasars and the expansion of the universe. A 12 195Q 0 1911

196. Laboratory in Modern Astronomy. (1). 3L. The application of the techniques and analysis of the data of modern astronomy. This course is intended for the student with some background in the physical sciences. When 196 is completed, 195Q and 196 count as a laboratory science field trip is required. Prerequisites: two semesters of high school algebra or the equivalent, or instructor's consent, and Phys. 195Q, which may be taken concurrently. A 21 196 1 1911

199. Discovery in Astronomy. (3). A selected topic in astronomy is discussed to develop an understanding of the discoveries and problems of modern astronomy. This course is intended primarily for general students with little or no background in science or math. See course schedule for topic each semester. A 21 199 0 1911

213Q. General College Physics I. (5), 4R; 3L. Mechanics, heat and wave motion. This course is intended for students with a working knowledge of algebra and trigonometry but who have had no calculus. Prerequisite: high school trigonometry or Math. 112 A 21 213Q 1 1902

214Q. General College Physics II. (5), 4R; 3L. Electricity, light and modern physics. This course is a continuation of Phys. 213Q. Prerequisite: Phys. 213Q or 313Q A 21 214Q 1 1902

223. The Mechanical Universe. (4). A study of the development of mechanics with calculus. The mechanics is applied to planetary motion, harmonic motion and waves as embodied in the specially prepared TV course "The Mechanical Universe." Not a lab course but lab credit can be obtained by departmental arrangement. Prerequisite: high school trigonometry or Math. 112 A 21 223 0 1902

Upper-Division Courses

313Q. University Physics I. (4). The first semester of a calculus-based physics sequence. Mechanics, heat and wave motion are studied. High school physics is recommended as preparation for this course. Natural science majors must take the lab, Phys. 315Q, that accompanies this course. Credit is not given for both Phys. 213Q and 313Q. Corequisite: Math. 243. A 21 313Q 0 1902

314Q. University Physics II. (4). The second semester of a calculus-based physics sequence. Electricity, magnetism and light are studied. Natural science majors are required to take the lab, Phys. 316Q, that accompanies this course. Credit is not given for both Phys. 214Q and 314Q. Prerequisites: Math. 243 with a grade of C or better and Phys. 213Q with a grade of B or better or Phys. 313Q. A 21 314Q 0 1902


355. Solar System Astronomy. (3). The sun, major planets and minor bodies of the solar system will be studied, particularly their nature and origin. Both classical ground-based observations and the results of satellite investigations will be discussed. This course is intended primarily for students with little prior contact with science. A 12 395 0 1911

400. Individual Readings in Physics. (1-2). Repeatable but total credit may not exceed two hours for physics majors. Prerequisite: departmental consent. A 21 400 3 1902

Courses for Graduate/Undergraduate Credit

501. Special Studies in Physics for Educators. (1). 3L+. A series of courses covering basic physical concepts which provide physical science background for the elementary educator. Prerequisite: in-service elementary teacher A 21 501 1 1902

516. Advanced Physics Laboratory. (2). 4L. Experiments in classical and modern physics designed to stress scientific methods and experimental techniques. The experiments are open-ended projects requiring individual study. Repeatable up to a maximum of eight credit hours. Corequisite: Phys. 551. A 21 516 1 1902

517. Electronics Laboratory. (2). 1R; 1L. Experiments in electronics that treat some of the applications of electronics in scientific research. Experiments cover the uses of vacuum tubes, transistors, IC and digital circuits. Prerequisite: Phys. 314Q. A 21 517 1 1902

551. Topics in Modern Physics. (3). An introduction to selected areas of modern physics with emphasis on the features of atomic, nuclear and solid state physics that require modifications of classical physics for their explanation. Prerequisite: Phys. 214Q or 314Q or departmental consent. Corequisite: Math. 344. A 21 551 0 1902

555. Physical Optics. (3).* Electromagnetic waves, diffraction and interference. Additional topics may include geometrical optics, coherent, incoherent and laser optical systems. The optical properties of solids. Prerequisites: Phys. 214Q or 314Q and Math. 344. A 21 555 0 1902

590. Stellar Astrophysics. (3). Course will focus on the application of basic physical principles to the study of stars. Topics will include stellar atmospheres, the structure of stars, formation and evolution of stars, nuclear reactions and nucleosynthesis, unusual stars, the death of stars and the interstellar medium. Prerequisite: Phys. 551. A 12 590 0 1912

595. Galactic and Extragalactic Astronomy. (3). Galaxies and the structure of the universe will be the primary topic. Topics will include the constituents and dynamics of our galaxy, the characteristics of normal galaxies, active galaxies and quasars, and cosmology. Prerequisite: Phys. 551. A 12 595 0 1912

601. Individual Readings in Astrophysics. (1-2). Several topics in astronomy and astrophysics are studied in depth. Lectures, independent readings and student projects may be assigned. May be repeated up to six hours. Prerequisites: Phys. 590 or 595 or consent of instructor. A 21 601 3 1912

611. Modern Physics I. (3). Introduction to quantum mechanics, the Schrodinger equation, elementary perturbation theory and the hydrogen atom. Prerequisite: Phys. 551. A 21 611 0 1900


621. Elementary Mechanics I. (3).* Motion of a particle in one and several dimensions,
central forces, the harmonic oscillator and the Lagrangian formulation of mechanics. Prerequisites: Phys. 2140 or 3140 and Math. 344 with grades of C or better. A 21 621 0 1902

625. Electronics. (2). 1R; 4L. Provides a working knowledge of electronic devices and circuits for the research worker and others who have little or no background in electronics. Prerequisite: instructor's consent. A 21 625 1 1909

631. Electricity and Magnetism I. (3).* Direct and alternating currents; electric and magnetic field theory, including an introduction to Maxwell's electromagnetic wave theory. Prerequisites: Phys. 2140 or 3140 and Math. 344 with grades of C or better. A 21 631 0 1902

632. Electricity and Magnetism II. (3).* A continuation of Phys. 631. Prerequisite: Phys. 631 or instructor's consent. A 21 632 0 1902

671. Thermophysics. (3).* The laws of thermodynamics, functions, Boltzmann equation, transport phenomena, fluctuations and an introduction to statistical mechanics. Prerequisites: Phys. 2140 or 3140 and Math. 344. A 21 671 0 1902

701. Advanced Topics in Physics. (3). A course on an advanced, current topic of interest in physics. The topic may be chosen from nuclear physics, solid state physics, astrophysics, biophysics or other areas. Prerequisites: Phys. 611 or departmental consent. A 21 701 0 1902

714. Theoretical Physics. (3). Cross-listed as Math. 714. A study of mathematical techniques that may be applied to physics and other sciences. Topics typically include power series methods, WKB method, contour integration, integral transforms, Hilbert space, special functions and solutions of partial differential equations. Prerequisites: Math. 550 and instructor's consent. A 21 714 0 1902

715. Numerical Methods in Physics. (2). 1R; 3L. Applications of numerical methods to problems in physics. Roots of equations, curve fitting, interpolation, extrapolation and smoothing of experimental data, numerical differentiation and integration and solution of differential equations. The use of computers in numerical methods is included. Prerequisite: instructor's consent. A 21 715 0 1902

809. Research. (1-3). Repeatable for credit up to six hours. A 21 809 4 1902

811. Quantum Mechanics I. (3). The Schroedinger and Heisenberg formulations of quantum mechanics. Applications will include rectangular potentials, central forces and the harmonic oscillator. Additional topics will be spin, time independent and time dependent perturbation theory. Prerequisites: Phys. 621 and 611, or departmental consent and Math. 550. A 21 811 0 1902

812. Quantum Mechanics II. (3). Applications of quantum mechanics. Topics which may be included are the WKB approximation, scattering, transformation theory, interaction picture, molecules and relativistic quantum mechanics. Prerequisite: Phys. 811. A 21 812 0 1902

813. Quantum Mechanics III. (3). Applications of quantum mechanics. Topics which may be included are the N-body problem, second quantization, photons, the electromagnetic field, superconductivity and magnetism. Prerequisite: Phys. 811. A 21 813 0 1902

821. Classical Mechanics. (3). The Lagrangian, Hamiltonian and Hamilton-Jacobi methods of mechanics and an introduction to variational calculus. Applications will be selected from central forces, rigid bodies, relativistic small oscillations and continuous media. Prerequisites: Phys. 621 and Math. 550. A 21 821 0 1902

831. Classical Electricity and Magnetism I. (3). Maxwell's equations with application to static electricity and magnetism. Additional topics may include electromagnetic fields, vector potentials, Greens functions, relativity, optics and magnetohydrodynamics. Prerequisites: Phys. 632 and Math. 550. A 21 831 0 1902

871. Statistical Mechanics. (3). An introduction to the basic concepts and methods of statistical mechanics with applications to simple physical systems. Prerequisites: Math. 550 and Phys. 621. A 21 871 0 1902

881. Solid State Physics I. (3). The basic knowledge of the nature and properties of the solid state, including the structural, thermal, mechanical and magnetic properties. Also studied are the electron theory of metals and band theory of solids. Prerequisites: Phys. 551 or departmental consent and Math. 550. A 21 881 0 1902


Political Science

Major. A major consists of Pol. Sci. 121Q and 30 additional hours, including at least one course in four of the five groups below.

Minor. A minor consists of Pol. Sci. 121Q and 12 additional hours, at least six of which must be in upper-division courses.

Group 1, Political Theory and Philosophy—Pol. Sci. 345, 444 or 547

Group 2, American Politics—Pol. Sci. 315, 316Q, 317, 318, 319, 358Q, 551 or 5520

Group 3, Comparative Politics—Pol. Sci. 228Q, 320, 330, 523Q, 524 or 525

Group 4, International Politics—Pol. Sci. 335Q, 336, 338 or 534

Group 5, Public Policy and Administration—Pol. Sci. 321, 505, 506, 533, 564, 580 or 587

Related Fields. Because of the changing nature of the social sciences and because of their increasing applicability in both the public and private sectors, political science should take appropriate courses in other social sciences, particularly Econ. 201Q-202Q, statistics and computer science.

Public Administration Option in Political Science. The goal of the public administration option is to prepare students for future entrance into public service. The option meets several needs. Many students in the social sciences plan for careers in the public sector, and there is evidence that public agency heads are demanding more and better qualified students with undergraduate degrees to face the challenges of the future in public service. Although the option emphasizes the preparation of undergraduates for public service, those who plan to enter graduate school in the fields of administration and public policy also will be prepared to undertake a more professional course of study.

A major with a public administration option consists of 36 hours, including Pol. Sci. 121Q, 345, 444 or 547; one course from Group 3 (Comparative Politics) or Group 4 (International Politics); and the required hours from each area below.


Area B (nine hours)—Pol. Sci. 321, Introduction to Public Administration, and two of the following: Pol. Sci. 564, Comparative Public Administration; Pol. Sci. 580, Administration and the Policy-Making Process; or Pol. Sci. 587, Theory of Administration

Area C (six hours)—Econ. 201Q, Principles of Economics I, and three hours in any of the following: Soc. 501, Sociological Statistics; Econ. 231, Introductory Business Statistics; Math. (Statistics) 360Q, Elementary Probability; Psych. 316, Industrial Psychology; or computer science.
### Lower-Division Courses

**101G. Politics: Who Gets What.** (3). A course focusing on some of the great political ideas and applying them to modern issues. Even if there are no eternal truths, there are eternal problems. Some of the major ideas include: the nature of the ruler; the rights and the ruled; liberty versus order; the right of dissent; political obligation and the problems of conscience. In addition, current political developments cover sex in society, First Amendment freedoms, ethnic politics, and the politics of oil. A 22 101G 0 2207

**103G. Games Nations Play: Problems in International Relations.** (3). The immediate and most apparent aim of this course is to familiarize students with a number of international problems. The intention, however, is to achieve more general and long-lasting aims rather than to transmit facts. The dual aims thus become the development of a sensitivity on the part of students to international problems that will be a part of their lives and to create a framework in which students can analyze the international problems they encounter in the future. A 22 103G 0 2207

### Upper-Division Courses

**315. The Presidency.** (3). The presidency focuses upon the evolution of the presidential office, the recruitment of presidents and the nature of presidential power. A 22 3150 0 2207

**3160. The Congress.** (3). Focuses on the Congress with particular attention to interest articulation at both state and national levels. A 22 3160 0 2207

**317. Urban Politics.** (3). An analysis of politics in urban areas, including such topics as the nature and distribution of community power, influence and leadership, the nature of community conflict, the formation of policy, urban problems and political solutions and trends in urban politics. A 22 317 0 2207

**318. Political Parties.** (3). The role of political parties in the American political decision-making process at the state, national and local levels. A 22 318 0 2207

**319. State Government.** (3). The role of the states in the federal system and the pattern of politics and institutions in the several states. Particular attention is given to the State of O’ Kansas. A 22 319 0 2207

**321Q. American Politics.** (3). A survey of the political systems in Latin America, Africa, the Middle East and south and southeastern Asia. Special attention is paid to colonialism as a system, the effects of colonialism and patterns of emerging nations. A 22 320 0 2207

**321. Introduction to Public Administration.** (3). A general survey of the scope and nature of public administration; policy and administration; administrative regulations and adjudication; organizational development; budgeting and fiscal management; public personnel administration; political, judicial, and other controls over the administration. A 22 321 0 2207

**330. Soviet Politics and Government.** (3). An in-depth look at the Soviet political system. The course begins as a point of reference, the course compares political processes in the systems of the two superpowers. Topics for study include political ideology, political economy, political system, and the individual, including treatment of political dissidents and uses of terror; lives of the elites and the masses; evolution and development of the Communist party of the Soviet Union; leadership selection, treatment of minorities; judicial systems; and problems and policies. A 22 330 0 2207

**335Q & 335Q. International Politics and Institutions.** (3 & 3). 335Q. Focuses on the role of the international system. Covers nature of conflict and conflict resolution. Either 335Q or 336, but not both. A 22 335Q 0 2207 & A 22 336 0 2207

**337. International Force and Intervention.** (3). Course examines the use of force and intervention on the international system. Covers the use of diplomatic and military surpries and crisis and the nature of war. Problems involved in comparing arms levels between Soviet and Western coalitions and in transferring arms to Third World countries also are discussed. A 22 337 0 2207

**338. Soviet Foreign Policy.** (3). The concept, content, and control of Soviet foreign relations; instruments and tools of Soviet diplomacy; strategy and tactics; change and continuity from Russia to Soviet foreign relations and policy aims; and execution of foreign policy in selected areas. A 22 338 0 2207

**345. Classical Medieval Political Theory.** (3). The purpose of the course is to examine the beginnings of Western political philosophy through works of Plato and Aristotle. This original body of political ideas dominated the Western world for more than 2,000 years. The changes in emphasis that occurred in this tradition are followed through the Roman Stoics and the religious philosophers of the Middle Ages. Believability with the philosophical ideas is a major contribution to understanding subsequent political philosophies. A 22 345 0 2207

**353. Model United Nations.** (2-4). A workshop to prepare students to participate effectively and professionally in Model United Nations, especially the Midwest Model U.N. in St. Louis. A 22 353 0 2207

**355. Practical Politics.** (2-3). A course focusing on either election campaigns or legislative sessions depending on which is in progress during the specific semester the course is offered. During election sessions, candidates and their interest group leaders are assigned to work for candidates and are also involved in a campaign simulation in class. During legislative sessions, both legislators and interest group leaders are involved. In addition, the class attends one of the legislative sessions in Topeka. A 22 355 0 2207

**358G. American Political Thought.** (3). Considered of selected topics in the development of political ideas in the United States. A 22 358G 0 2207

**390. Special Topics in Political Science.** (1-3). An analysis of selected topics in political science in a seminar setting. Content varies depending upon the instructor. Repeatable for credit. A 22 390 0 2207

**398. Directed Readings.** (1-3). A course designed for exceptional students to meet other controls over the administration, A 22 321 0 2207

**444. Modern Political Theory.** (3). This course continues the study of Western political philosophy beginning with the decisive break with the classical tradition that was made by Machiavelli. Major philosophers studied are Hobbes, Locke and Rousseau. Major philosophers of this period have collectively had a profound impact on political life in this century. A 22 444 0 2207

**481. Cooperative Education in Political Science.** (1-3). The course provides the student with practical experience to complement the student’s more formal political science curriculum. Student must be approved by the department. Offered Cr/No Cr only. A 22 481 0 2207

### Courses for Graduate/Undergraduate Credit

**505. The Politics of Health.** (3). Cross listed as HAE 505. Early research to show how governments in the United States make decisions in the health field, describe the political forces shaping governmental
506. Politics of Aging. (3). Cross-listed as Geron. 506. This course focuses on the role of the elderly as competitors in the political arena. In assessing the elderly's strengths and weaknesses, the course analyzes the effects of aging on political behavior, strategies of the aging—both individual and collective—and the responses of the political system. A 22 506 0 2207

5230. Government and Politics of Latin America. (3). An examination of the political institutions and processes that currently exist in the Latin American republics. Emphasis is on the social, economic, and psychocultural factors affecting these institutions and processes. A 22 5230 0 2207

524. Politics of Modern China. (3). Emphasizes the period since 1949 in terms of non-Western goals and ideas of social organization. Themes of political integration and political development are used in examining the formation or evolution of modern Chinese government. Study encompasses the roots of the political system, the system as it is now and the goals China is striving to realize. Some assessment is made about the future development of contemporary Chinese society. Topics include Chinese communism and the ideological heritage, political culture, political leadership, leadership succession, political participation, the Chinese Communist Party, political communications and socialization, legal developments, policy choices, and major events, such as the Hundred Flowers Campaign, Great Leap Forward and the Cultural Revolution. A 22 524 0 2207

525. Postindustrial Politics. (3). An examination and analysis of political systems and postindustrial politics in highly industrialized nations, such as the United States, Britain and Japan. Emphasizes cleavage patterns, stability-instability, party systems and comparative policy analysis. A 22 525 0 2207

533. Policy Development in Foreign Relations. (3). The process of U.S. foreign policy making in the American structure of government. The course is given to institutional conflict. A 22 533 0 2207

534. Problems in Foreign Policy. (3). Examines domestic and international problems associated with U.S. foreign policy. A 22 534 0 2207

547. Contemporary Political Theory. (3). The purpose of this course is to introduce students to the radically new ideas that emerged in study last Century as a result of Darwin's theory of evolution, the doctrine of historicism and the growth of modern science and to explore their impact upon political thought. Although the multiplicity of philosophies makes generalization difficult, most of them draw strength from common sources. Philosophers such as Hans Kelsen, William Briant, Joseph Gold, Ernst Nussbaumer and John Dewey are studied. Attention is given to the importance of these new philosophies upon political structures and issues. A 22 547 0 2207

551. Public Law. (3). An analysis of the role of appellate courts—especially the U.S. Supreme Court—in the American political system. Emphasis is placed upon the guarantees of the Bill of Rights and the 14th Amendment. A 22 5520 0 2207

560. The Planning Process. (3). This course is of use to students desiring to work in an urban planning agency or who will be involved in planning issues as an administrator. At the state and federal level it is of value to students seeking an understanding of the complex process of urban-related life. The role of planning in solving urban and environmental problems is examined. Emphasis is given to the relationships between specialists, citizens and elective officials as participants in the planning process. A 22 560 0 2207

561. Public Management of Human Resources. (3). The course surveys the major areas of management of human resources in the public sector. These include hiring, training, evaluation and pay promotion policies. Special emphasis is given to the laws governing personal management and to the unique merit, equal opportunity, productivity, unionization and collective bargaining issues found in the public sector. A 22 561 0 2207

564. Comparative Public Administration. (3). A study of the administrative system of selected developed and developing countries with special attention to the various methods and approaches of comparative analysis and to the relationships between administrative institutions and their environmental settings. A 22 564 0 2207

570. Administration and the Policy Making Process. (3). The problems of government encountered in the administration of public policy. The approach is analytical rather than descriptive. Repeatable for credit. A 22 570 0 2207

587. Administrative Theory and Behavior. (3). A study of organization theory and the various approaches to the study of organization. A 22 587 0 2207

700. Advanced Directed Readings. (3). Repeatable for credit. Prerequisite: departmental consent. A 22 700 3 2207

701. Method and Scope of Political Science. (3). Emphasis is given to the philosophy of science and methodology (as distinguished from method and technique) and exposes the student to recent works of methodological importance in the various subfields within the discipline. Prerequisite departmental consent. A 22 701 0 2207

710. Scope of Public Administration. (3). Cross-listed as P. Adm. 710. Review of the scope of the field of public administration including a survey of key concepts and subfields and identifying the role and identification of issues shaping the future development of the field. A 22 710 0 2214

750. Workshop. (2-4). Prerequisite: instructor's consent. A 22 750 2 2207

760. Local Government Finance. (3). Cross-listed as Econ. 760. An analysis of state and local government expenditure and revenue systems with an introduction to state and local financial legislation. Prerequisites: Econ. 2020 and a course in statistics or instructor's consent. A 22 760 0 2207

Courses for Graduate Students Only

810. Seminar in Comparative Government. (3). The comparative study of selected aspects of the politics and institutions of foreign governments. Prerequisite: departmental consent. A 22 810 9 2207

821. The Budgetary Process. (3). Analysis of the development and utilization of the budgetary process in government administration with special attention given to the role of the professional chief executive. Problems examined are drawn from the following: labor-management relations, program evaluation, county government reform, governmental decentralization, citizen participation, grant-in-aid programs, interlocal cooperation, affirmative action requirements and service contracting. Prerequisite: Policy Sci. 517. A 22 821 9 2207

835. Seminar in International Relations. (3). Analysis of special problems in and approaches to the study of international relations. Prerequisite: departmental consent. A 22 835 9 2207

841. Seminar in Urban Politics. (3). An intensive analysis of urban policy with emphasis on individual research projects. Prerequisite: departmental consent. A 22 841 9 2207

842. Administration in Local Government. (3). Examination of administrative processes in all forms of local government, including the role of the professional chief executive. Problems examined are drawn from the following: labor-management relations, program evaluation, county government reform, governmental decentralization, citizen participation, grant-in-aid programs, interlocal cooperation, affirmative action requirements and service contracting. Prerequisite: Policy Sci. 517. A 22 842 9 2207

845. Seminar in Political Theory. (3). Detailed study of the relevant works of a major political philosopher and his/her contribution to contemporary thought. Prerequisite: departmental consent. A 22 845 9 2207

851. Seminar in Public Law and Judicial Behavior. (3). Analysis of special problems in and approaches to the study of legal systems. Emphasis is given to developing the student's awareness of research in the field. Prerequisite: departmental consent. A 22 851 9 2207

855. Seminar in Public Finance Systems. (3). An analytical study of selected topics in the political economy of the public sector, including revenue, expenditure and borrowing policies of governmental organizations. Prerequisite: departmental consent. A 22 855 9 2207

856. Seminar in American Politics and Institutions. (3). Analytical study of selected topics in American political behavior with emphasis on individual research. Repeatable for credit when content differs substantially. Prerequisite: departmental consent. A 22 856 9 2207

874. Internship. (3-5). S/U grade only. An intensive applied learning experience supervised by a University department or committee. To receive credit, a student must secure approval of a written report from his/her own department. Prerequisite: departmental consent. A 22 874 2 2207

875. Research Design. (3). S/U grade only. This course focuses on the development of a research design for the thesis. The design must be submitted to a departmental committee for evaluation and approval. Prerequisite: departmental consent. A 22 875 4 2207

876. Thesis. (1-3). A 22 876 4 2207

Psychology

The course is designed to provide a breadth of knowledge in the field
of psychology. Accordingly, the major requires students to choose courses from foundation areas (Group I); traditional human oriented areas (Group II); and applied areas (Group III).

The program is designed to prepare students for postgraduate work in psychology but is flexible enough to accommodate the interests of students who do not intend to pursue graduate study in psychology. Such students may be career oriented (e.g., social work, management training, etc.) or simply have an interest in learning more about why we behave as we do.

Major. The major for the Bachelor of Arts (BA) degree consists of a minimum of 30 hours in psychology, at least nine of which are earned at Wichita State. Psych. 111Q is prerequisite for all higher number psychology courses. All BA majors are required to take Psych. 111Q, 401, 411 and 601. In addition, six hours must be taken from each of the groups listed below.

Group One: Psych. 302, 332, 342Q, 402, 502Q, 512, 522, 532 or 622
Group Two: Psych. 304Q, 324Q, 334Q, 404, 414, 514, 524, 534, 544 or 704
Group Three: Psych. 316, 336, 406, 416Q, 516, 526, 536, 546, 556 or 756
Minor: The minor consists of a minimum of 15 hours selected in consultation with the student's major adviser.

Lower-Division Courses

101. Stress and Stress Management. (3). An introduction to the theories of stress and a survey of major stress management techniques. Class discussion emphasizes the conceptualization of stress and its social impact which is complemented by stress reduction techniques. The course does not satisfy the University's social science requirement nor does it count for a psychology major. A 23 108 1 2001

111Q. General Psychology. (3). An introduction to the general principles and areas of psychology. Topics include learning, perceiving, thinking, behavioral development, intelligence, personality and abnormalities of behavior. This course is a prerequisite for advanced and specialized courses in psychology. A 23 111Q 0 2001


Upper-Division Courses

302. Psychology of Learning. (3). Basic principles of how organisms learn are explored to highlight key concepts such as reinforcement and punishment, generalization of behavior across settings and extinction of specific behaviors. Relevant research, theoretical issues and current trends are discussed. Prerequisite: Psych. 111Q or A 23 302 0 2002

304Q. Social Psychology. (3). A study of how social behavior is influenced by the behavior and characteristics of others. Topics include attitude formation and change, attribution, interpersonal attraction, impression formation and compliance, as well as the applications of social psychological principles to the understanding of aggression and sexual behavior. Prerequisite: Psych. 111Q. A 23 304Q 0 2005

316. Industrial Psychology. (3). An introduction to the many roles of scientific psychology in the selection, training, evaluation and general use of people in the workplace. Employee morale, job satisfaction, leader behavior, fair employment practices and sources of worker stress are among the topics. Prerequisite: Psych. 111Q. A 23 316 0 2008

324Q. Psychology of Personality. (3). An examination of psychoanalytic, behavioral, trait and other contemporary theories of human personality. Consideration given to major factors influencing personality, results of research in the area, ways of assessing personality and some of the methods of treating personality disorders. Case studies are presented and discussed. Prerequisite: Psych. 111Q. A 23 324Q 0 2001

326. Psychology of Perception. (3). An exploration of research and theory in perception and sensation. Emphasizes how organisms come to perceive and understand their environments with regard to perception of space, form, objects and events. Consideration also given to motivation and personality factors in perception. Prerequisite: Psych. 111Q. A 23 332 0 2002

334Q. Developmental Psychology. (3). Cross-listed as Geron. 334Q. Descriptive survey of human development from conception to death with emphasis on the interplay of environmental, genetic and cultural determinants of development. Selected topics may be emphasized and elaborated on by demonstrations and class projects. Prerequisite: Psych. 111Q. A 23 334Q 0 2009

336. Alcohol Use and Abuse. (3). A study of the individual, social and cultural aspects of alcohol use. Both nonproblem and abusive drinking are investigated as is research on why people drink. An exploration of problems linked to alcohol use, treatment of alcoholism and the needs of special populations. Investigation of combined alcohol and drug abuse as well as social, legal and economic aspects of the use of drugs other than alcohol are included. Prerequisite: Psych. 111Q. A 23 336Q 0 2002

342Q. Psychology of Motivation. (3). The psychological and biological forces leading to goal-directed acts are examined to understand the complexity of influences upon behavior. Some of the motivational topics discussed are reward and punishment, stress, aggression, achievement and the role of the brain in behavior. Prerequisite: Psych. 111Q. A 23 342Q 0 2001

401. Psychological Statistics. (3). Introduces basic quantitative techniques for the description and measurement of behavior, as well as tests for making decisions regarding the comparability of two groups of observations. Probability models covered include the chi square and F. Prerequisites: Psych. 111Q and Math. 111 or 112. A 23 401 0 2007

402. Psychology of Consciousness. (3). Consciousness is examined from two perspectives. One perspective explores the cognitive ability of people learning from comas to "peak experiences" and as a framework for knowledge. Research on split-brains and dissociated personalities is covered from the second perspective. Prerequisite: Psych. 111Q. A 23 402 0 2001

404. Psychology of Aging. (3). Cross-listed as Geron. 404. An examination of the issues surrounding the adult aging process. Includes topics are personality and intellectual change, mental health of the elderly and the psychological issues of extending human life. Special emphasis on the strengths of theelderly and prevention of psychological problems of the elderly is provided. Prerequisite: Psych. 111Q. A 23 404 0 2009

406. Introduction to Community Psychology. (3). A review of the historical, theoretical and empirical bases of community psychology and community mental health will be provided. Contemporary models of community psychology are presented including the ecological and social action perspectives. Special topics will include the social support, self-help, social policy and the prevention of psychosocial problems. Prerequisite: Psych. 111Q. A 23 406 9 2005

411. Research Methods in Psychology. (4). 3R-3L. Covers the philosophy of research methods, experimental designs, appropriate data analysis techniques and historical trends and developments in experimental psychology. The laboratory exposes students to representative experimental lab techniques in the field of the subdiscipline. Prerequisite: Psych. 111Q. A 23 411 1 2002

414. Child Psychology. (3). Covers psychological development from conception through infancy and childhood. Topics include the development of language, perceptual and cognitive functioning, social-emotional attachment and socialization. Attention is given to normal and abnormal development and child rearing. Prerequisite: Psych. 111Q. A 23 414 0 2009

416Q. Psychology and Problems of Society. (3). A study of the special role of psychological theory, research and principles applied to contemporary social issues and problems including such topics as environmental concerns, problems in the schools, mental health, the needs of special populations. Involves theoretical, empirical and practical data. Prerequisites: Psych. 111Q, 401, Psychological Statistics. (3). Prerequisite: Psych. 111Q. A 23 416Q 0 2005

426. Psychology of Work. (3). Selects from standard topics of industrial psychology to examine a special area of concern. Recent topics have been job satisfaction problems, effects of technological change, membership in unions, control of productive workers, factors and myths about the working woman and other similar topics. Prerequisite: Psych. 111Q. A 23 426 0 2008

429. Field Work in Psychology. (3). Special projects and practicums under supervision in public and/or private agency settings. Psychological study, observation, service and/or research may be undertaken with prior approval by the department. Repeatable for a maximum of six credit hours, but only three hours may be earned per semester. Offered Cr/NCr only. Prerequisite: Psych. 111Q and departmental consent. A 23 429 0 2005

481. Cooperative Education. (1-3). This course is designed to provide the student with opportunities to work in a professional setting under academic supervision, that complements the student's academic program. Consultation with and approval by an appropriate faculty sponsor are necessary. Offered Cr/NCr only. A 23 481 2 2005
Courses for Graduate/Undergraduate Credit

502Q. Comparative Psychology. (3). Psychological and ethological analyses of behavior are compared and contrasted. The evolution and development of behavior are stressed. Major topics include a critique of the instinct doctrine and sociobiological interpretations of behavior. Lectures are supplemented with field trips. Prerequisite: one course from Group One. A 23 502 Q 0 2001

508. Psychology Tutorial. (3). Selected topics in psychology. Repeatable for a maximum of six hours of credit; instructor's consent may be required. Check Schedule of Courses. Prerequisite: Psych. 1110. A 23 508 2 2000

512. Primatology. (3). A survey of the primates (including humans) and their behavior. Topics include principles of evolution and taxonomy, the transition to homo sapiens, the evolution of behavior, the development of language, learning in the primates and the development of behavior. Prerequisite: Psych. 1110. A 23 512 0 2002

514. Psychology of Health and Illness. (3). A survey of the relationships between psychology and physical health and illness. Topics include stress and coping, health habits, acquired disorders, patient care-provider relationships, hospitalization and prevention. A self-study of lifestyle and behavior in relation to health and illness may be included. Prerequisite: Psych. 1110. A 23 514 0 2001

516. Drugs and Human Behavior. (3). A survey of the actions and effects of use of legal and illegal psychoactive drugs, and of the use of prescription drugs in the treatment of psychological disorders. Social-cultural, personal and situational determinants and consequences of drug use and abuse will be detailed. Prerequisite: Psych. 1110. A 23 516 0 2002

522. Biological Psychology. (3). A review of the biological foundations of behavior. Topics include the evolution of behavior, brain-behavior genetics, a critical analysis of brain-behavior relationships, the role of hormones in behavior and neurochemical correlates of behavior. Prerequisite: Psych. 1110. A 23 522 Q 0 2010

524. Advanced Psychology of Personality. (3). More intensive treatment of the topics of psychology of personality with special emphasis on contemporary theories, research and application of the psychological study of personality. Prerequisite: 324Q. A 23 524 8 2001

526. Psychological Testing and Measurement. (3). A critical analysis of the psychological foundation of tests and the interpretation of test findings. Several tests representing the major areas of intelligence and personality are tested and analyzed. Prerequisite: Psych. 491. A 23 526 0 2006

532. Psycholinguistics. (3). Cross-listed as Ling. 545. Survey of psychological, linguistic and informational analyses of language. Topics include the performance-competence distinction, child development of speech, animal communication systems and the relation of language to thought. Prerequisite: Psych. 1110. A 23 532 9 2001

534. Psychology of Women. (3). Cross-listed as WS 534. Psychological assumptions, research and theories of the roles, behavior and potential of women in contemporary society. Prerequisite: Psych. 1110. A 23 534 0 2003


544. Abnormal Psychology. (3). An introductory survey of abnormalities of behavior. Definitions, causes, types and classifications of behavior disorders are presented. Attention is given to various theories of abnormality, research evidence and various methods of diagnosis and treatment. Hypothetical regarding prevention of abnormality are presented. Prerequisite: Psych. 324Q. A 23 644 0 2001

546. Prac tum in Applied Behavior Analysis and Social Learning. (3). 1R; 4L. Placement in local human service agencies for about eight hours a week for fourteen weeks. Under supervision, students assist in the development and delivery of services at the agency sites. Repeatable once. Prerequisites: Psych. 536 and instructor's consent. A 23 546 2 2003

555. Introduction to Clinical Psychology. (3). A survey of current ethical, conceptual and research issues in the assessment and treatment of psychological disorders. Contemporary therapies are considered with an emphasis on the therapeutic process and the therapeutic mechanisms through which they initiate behavioral change. Prerequisite: Psych. 324Q. A 23 555 0 2002

569. Computer Applications to the Behavioral Sciences. (3). 2R; 2L. This course introduces computer applications to the behavioral sciences. Included are 1) techniques of analyzing experimental data, 2) statistical analysis of computer programs, 3) "canned" statistical programs, 4) word processing and 6) other computer applications. Prerequisites: nine hours in the social sciences. A 23 569 1 2007

601. Systems and Theories in Psychology. (3). An intensive review of systems and theories of psychology including behaviorism, Gestalt psychology, structuralism and other. An attempt is made to develop the logical relations of these theories to each other as well as to consolidate modern viewpoints and practices into a comprehensive system. Prerequisite: 15 hours of psychology or instructor's consent. A 23 601 0 2001

608. Special Investigation. (1-3). Upon consultation with instructor, advanced students with adequate preparation may undertake original research or directed readings in psychological problems. Repeatable for a maximum of six credit hours. Consultation with and approval by an appropriate adviser are required prior to registration. Prerequisites: nine hours in psychology and instructor's consent. A 23 608 4 2001

622. History of Psychology. (3). Traces the development of philosophical and empirical concepts of psychology from the ancient Greeks through the 19th century. The origins and various viewpoints and theories of behaviorism and behaviorism are emphasized. Prerequisites: nine hours of psychology or instructor's consent. A 23 622 0 2001

704. Advanced Social Psychology. (3). An intensive review of selected contemporary issues in social psychology. Prerequisite: Psych. 304Q. A 23 704 9 2005

728. Seminar in Psychotherapy. (3). Provides an in-depth description and critical analysis of various theories and methods of psychotherapy, an examination of the efficacy of these therapeutic approaches and a survey of current issues in psychotherapy, such as sex, race, ethnicity, gender and client-therapist variables in the therapeutic process. Prerequisites: Psych. 1110 and instructor's consent. A 23 728 9 2003

748. Research and Development in Applied Settings. (3). 2R; 2L. An introduction to research and development activities in industry. Lecturers cover sources of research ideas, funding sources, use of company resources, technical communications, assembling literature, design and publishing practices. Lab work involves practice in preparing industry-type proposals and presentations, schedules and budgets and analysis of industry-type research. Prerequisite: A 23 748 1 2008

750. Psychology Workshop. (1-3). A course of specialized instruction, using various formats in selected topics and areas of psychology. A 23 750 2 2001

756. Aerospace Psychology. (3). Exploration of the many roles of psychological science in aviation and aerospace science. Surveys the research and literature in areas such as psychophysiological aspects of flight, environmental effects on human performance in aviation, aircrew performance, training, cockpit control and display systems and aviation safety. Prerequisites: 15 hours of psychology or instructor's consent. A 23 756 0 2003

Courses for Graduate Students Only

802. Seminar in Clinical Psychology. (3). Intensive study of clinical theory, research and practice. Included are such issues as an intensive examination of psychological approaches to assessment, research in clinical psychology, appropriate research designs in clinical science, client rights, legal and ethical concerns, licensure and certification and related topics. Prerequisite: instructor's consent. A 23 802 9 2003

804. Seminar in Behavioral Development. (3). A critical analysis of the concept of development and of theories of behavioral development. Course begins with a review of the concept of development and proceeds to a discussion of modern evolutionary thought. The concept of development is examined from psychological, biological and anthropological perspectives. Finally, various theories of human development are critically evaluated. Prerequisite: instructor's consent. A 23 804 9 2001

811. Seminar in Cognitive-Behavioral Assessment. (4). 3R; 3L. Surveys issues of reliability and validity; provides description, critical analysis and practice in clinical use of such psychological assessment methods as interviewing, observation, self-report and standardizing intelligence and personality tests. Focus is upon comprehensive clinical assessment, including integration and re-
porting of assessment data for treatment planning. Prerequisite: instructor's consent. A 23 811 9 2003

815. Clinical Research and Practice. (3). Designed to give the student further experience in clinical skills and clinical research. Students are supervised in their clinical work with individual clients seen through the departmental clinic. May be taken for a maximum of six credit hours. Prerequisite: instructor's consent. A 23 815 2 2003

820. Graduate Research Seminar. (3). Analysis and explanation of the assumptions and experimental methodologies of the types of research that lead to discovery of testing of scientific laws. Although not limited to psychology, special emphasis is given to laws illustrating the control of individual behavior. Prerequisite: instructor's consent. A 23 820 9 2001

826. Seminar in Behavior Therapy. (4). 3R: 3L. A review of the theoretical and empirical support for specific behavior therapeutic practices. Approaches may include systematic desensitization, flooding, contingency management techniques and aversive therapies. The interface between behavioral assessment and clinical practice also is discussed. Prerequisite: instructor's consent. A 23 826 9 2003

830. Seminar in Community Psychology. (3). Comprehensive overview of theory, research and practice in the emerging field of community psychology from the perspective of general systems theory. Topics include prevention, consultation, community mental health and a community vs. individual perspective to human and social problems. Prerequisite: instructor's consent. A 23 830 9 2005

831. Research in Community Psychology. (3). An examination of the perspective of community psychology specifically concerning the applied methods of needs assessment and program evaluation. Special emphasis on how to use applied research methods to precipitate planned community and organizational change and social reformation. Prerequisite: instructor's consent. A 23 831 2 2005

832. Practicum in Community Psychology. (3). Supervised practice in such areas as psychological consultation, program evaluation, program development, paraprofessional training and preventative programs in community agencies and organizations. Repeatable for a maximum of six credit hours. Prerequisites: Psych 320 and 831 and instructor's consent. A 23 832 9 2005

833. Psychosocial Service Agencies. (3). An in-depth examination of psychosocial service agencies with regard to structure, functions, financing, goals, planning, development, evaluation and accountability. Prerequisite: instructor's consent. A 23 833 0 2005

834. Seminar in Consultation and Counseling. (3). The theories and techniques of consultation, counseling and interviewing are examined and applied to individuals, organizations and interorganizational groups. Prerequisite: instructor's consent. A 23 834 9 2005


844. Seminar in Personality and Psychosocial Disorders. (3). Relationship of normal behavior development and maladjustment and also a critical review of theory and research. Prerequisite: instructor's consent. A 23 844 9 2003

845. Development of Abnormal Behavior. (3). A consideration of the descriptive characteristics of abnormal behavior, a developmental perspective. The ecological, social-environmental, personal and genetic-biological contexts and causes of such behavior are considered. Implications for preventative and clinical interventions will be discussed. Prerequisite: instructor's consent. A 23 845 9 2003

852. Univariate Research Design. (3). Analysis of variance for various single and multi-factor designs. Analysis of covariance, multiple comparisons and other selected topics. Also included is the use of computer program packages for the analysis of data. The course emphasizes psychological research in laboratory and applied settings. Prerequisite: Psych 842 or instructor's consent. A 23 852 9 2001

853. Multivariate Research Design. (3). Multivariate methods, techniques and designs in psychological research including multiple regression, discriminant analysis, profile similarity, factor analysis and other selected topics. Also included are the use of computer program packages for the analysis of data. The course emphasizes research in applied and field settings. Prerequisite: Psych 842 or instructor's consent. A 23 853 9 2001

865. Seminar in Psychology of Learning. (3). Intensive study of theory and research in learning processes. Included are the study of principles of individual behavior and some of the variables of which it is a function as illustrated by respondent and operant conditioning along with some areas of application. Prerequisites: Psych 302 and instructor's consent. A 23 865 9 2002

870. Seminar in Current Developments. (3). Intensive study of current issues, techniques, research and application. Repeatable for different topics for a maximum of six hours. Prerequisite: instructor's consent. A 23 870 9 2001

872. Seminar in Comparative Psychology. (3). Intensive study of psychological and ethological research and theories of behavior. The course is oriented around the evolution and development of behavior. Topics include a review of the concept of integrative levels in psychology. Prerequisites: Psych 5020 and instructor's consent. A 23 872 9 2002


885. Seminar in Perception. (3). Intensive study in theory and research in perceptual processes. Prerequisites: Psych 332, or equivalent, and instructor's consent. A 23 885 9 2001

Public Administration

Students planning to continue their education in pursuit of a Master of Public Administration degree may want to structure their undergraduate degree plans to include program prerequisites. The Master of Public Administration program has a specified list of prerequisites that is considered important to the information foundation of the professional administrator. Students can be accepted in a "full-standing" status prior to the completion of program prerequisites. The Master of Public Administration degree consists of 36 graduate hours and 16 hours of prerequisites in the areas of economic principles, public administration, statistics and a demonstrated computer competency.

The Master of Public Administration program uses an important blending of academic foundations and real world application. Since the program is housed in the Hugo Wall Center for Urban Studies, faculty and students are able to test immediately theoretical positions through state and local government research and application. This effort to blend theory and application is further enhanced through adjunct faculty from state and local government.

The final opportunity for joining theory and application comes in the form of program completion options. Students have opportunities for internships with national, state and local government. Students with well-established career paths can tailor a portion of their course work to match their professional needs and may elect to complete the program through an applied research project which addresses an issue of professional concern.

The courses listed below, except for PAdm. 755, constitute the core curriculum and completion option requirements for all Masters of Public Administration candidates. The remainder of the program can be structured to match the career aspirations of the student using course offerings from selected University departments. The following areas of specialization should serve as examples of possible track options:

Public Management
Public Personnel Management
Urban Studies
Aging Administration
City Management
Policy Analysis and Planning
Public Financial Management
Applied Research for Policy Decisions

Courses for Graduate/Undergraduate Credit

625. Computer Applications for Public Policy. (3). Course familiarizes students with major types of software applications for IBM compatible microcomputers and their use in public policy analysis. Prerequisite: enrolment in MPA program or sponsorship by local government. P 13 825 0 2214

700. Urban Affairs. (3). A study of the process of urbanization from a multidisciplin-
ary point of view. Prerequisite: enrollment in urban affairs program or instructor's consent. P 13 700 0 2214

702. Research Methods in Public Administra-
tion. (3-3). This course is designed to ac-
quaint the student with applied public policy
research methods. Emphasis is upon locating,
appraising and utilizing secondary sources of data of the type used in policy
planning and administrative research. Stu-
dents must complete several short research
projects. Prerequisite: enrollment in urban af-
airs program or instructor's consent. P 13
702 4 2214

710. Scope of Public Administration. (3). Cross-listed as Pol. Sci. 710. Review of
the scope of the field of public administration
including a survey of key concepts and
schools of thought underlying the field and
major trends. May be repeated if topics are
different. Prerequisite: instructor's consent. P 13
710 0 2214

720. Urban Systems. (3). Cross-listed as IE
720. This course develops the principles of
systems analysis and the tools by which these
principles can be applied. Example applica-
tions are taken from urban problems. Em-
phasis is on the formulation of realistic models
and solutions. Computer techniques are de-
veloped in class as necessary. Prerequisite:
instructor's consent. P 13 720 0 2214

730. Decision Making. (3). Cross-listed as
Mgmt. 680. Course includes theories of deci-
sion-making ability under varying degrees of
uncertainty. Content coverage includes such
material as theories of decision making, en-
vironment for stimulating creativity, cognitive
inhibitors to problem identification: alternative
evaluation techniques, decision implementation
and utilization of quantitative tools in deci-
sion making. Prerequisite: instructor's consent.
P 13 730 0 2214

740. Policy Evaluation. (3). This course is
designed to assist public sector monitoring
and control of program and service delivery
quality. The social sciences offer a variety of
research tools and methods that have man-
agement feedback. Applications which are
appropriate for evaluating performance. Pre-
requisite: instructor's consent. P 13 740 0
2214

755. Special Topics in Urban Affairs. (3). Provides
students with an opportunity to engage in
advanced study in urban topics and an oppor-
tunity to conduct research in areas of special
interest. Prerequisite: instructor's consent.
P 13 755 0 2214

Courses for Graduate Students Only

875-876. Thesis. (3-3). Prerequisite: ad-
viser's consent. P 13 875 0 2214; P 13 876 0
2214

890. Internship. (3). The internship is de-
signed to integrate academic pursuits and
practical experience. Students admitted to
the program are expected to work for an
approved government, community or private
organization for a period of three to 12
months. P 13 890 2 2214

898. Applied Research Paper. (3). The ap-
plicated research paper under the direction of a
faculty committee is designed to develop and
improve research and policy conceptualization.
Each paper addresses a policy relevant question
and the delivery of a finished product with
policy application. This course is to be taken
in the last semester of course work. P 13 898
4 2214

899. Internship Seminar. (3). As a part of
the internship experience, the intern is re-
quired to submit and be examined upon an
internship paper. Prerequisites: completion of
each Master of Public Administration core
courses and six hours of additional graduate
credit courses. P 13 899 9 2214

Religion

The Department of Religion offers students
an opportunity to inform themselves about the
major religious traditions of the world and to
critically and constructively about religion as
a dimension of human experience and a mode
of human experience. The curriculum
includes courses on major religious
traditions, significant issues in religion
and methods of studying religion.

The Bachelor of Arts degree in religion
was phased out beginning in 1987; however, students presently enrolled in
the program will be accommodated. An
emphasis in religion is available through
the General Studies program.

Students contemplating a major or
minor in religion should consult their
academic advisor to discuss the course
work and when to plan a course of study.

Major. The Department of Religion offers two options for a major. Option
one is designed for the ordinary major.
This option requires a minimum of 30
hours. A maximum of six hours may be
taken at the 100 level. Option two is
designed for students who choose reli-
gion as a second major. This option
requires a minimum of 24 hours. A max-
imum of six hours may be taken at the
100 level.

Distribution. For both majors at least
nine hours must be selected from "tradi-
tions" courses, three from comparative
or theory courses and three from con-
structive courses. For an identification of
these courses consult the religion depart-
ment advising coordinator.

Minor. A minor in religion requires a
minimum of 15 hours. A maximum of six
may be taken at the 100 level.

Lower-Division Courses

1100. Old Testament. (3). Introduction
to the literature, history and religion of the Old
Testament in the light of modern scholarship.
A 15 1100 15 10

1150. New Testament. (3). An intro-
duction to the literature, history and religion of the
New Testament in the light of modern schol-
arship. A 15 1150 15 10

1200. The Biblical Heritage. (3). The
collection of books known as the Bible has been
central to a number of religious traditions for
more than 2,000 years. This course examines
the central religious ideas and motifs of Biblical
literature and then proceeds to study how the
Jewish and Christian traditions have inter-
preted those ideas and molded them in various forms and combinations. The
course is historical and analytic, not confessional. It culminates with a survey of
religious ideas and beliefs that are played
by the Bible in contemporary American cul-
ture. A 15 1200 15 10

125. World of the Bible. (3). This course
seeks to understand the Bible within its geo-
ographical, historical and religious context —
the political and religious history of the ancient Near
East, the historical-critical study of the
Babylonian, Assyrian, Egyptian, Persian, Greek and
Rome from the period of the patriarchs to the
rise of Christianity. Special attention is paid to
the human and religious thought and the resultant prac-
tices of the larger patterns of cultural con-
text. A 14 127 15 10

1300. Introduction to Religion. (3). An
introduction to the major religious traditions and
philosophies of the world. Taught by both
traditional and religious studies, with some emphasis on the methods used in
the study of religion. A 15 1300 15 10

1310. Traditional Religion and the Modern
World. (3). A study of both of the traditional religious systems (Buddhist,
Hindu, Confucian, Taoist, Judaic and Chris-
tian) and of several of the important modern
traditions of religion with a view to confront the
problem of whether traditional religion can be
meaningful in the modern world. A 15 1310
15 10

150. Workshop in Religion. (2-4). A 15
150 15 10

210. Current Religious Issues. (3). A criti-
cal study of contemporary issues in the West
and some attention to non-Western religions.
The relationship of religion to such topics as
war, secularism, population expansion and
politics is considered. A 15 210 15 10

215. The Meaning of Death. (3). An explo-
ation of the many interpretations and prac-
tices that constitute the response to death in major religious traditions. A 15
215 15 10

221. Judaism. (3). The history and central
teachings of traditional Judaism and its mod-
ern varieties (Reform, Orthodox, Conserva-
tive, Zionist, etc.). The course focuses on
Jewish customs and practices as well as
Jewish religious thought. A 15 221 15 10

2220. East Asia. (3). Cross-listed as LAS
2220, Hist. 222, Pol. Sci. 2220. A survey of
basic topics on China, Korea and Japan,
including history, culture, society, philosophy,
religion, politics and economics. The course
is taught by a team of instructors from several
departments. A 15 2220 15 10

223. Hinduism and Buddhism. (3). Hind-
usm and Buddhism are closely related
both in history and in a unique period in the
history of India's ancient Vedic tradition.
The world view from which they arise is
sharply different from that which has been
characteristic in the West; one the con-
temporary investigation of consciousness by sophisticated meditation
techniques. A type of religiosity for which
India has become famous. This course in-
investigates the formation of that world view and explores the diverse ways in which it has been expressed. It expanding a way of life and path of spiritual cultivation in the Hindu and Buddhist traditions. A 15 223 0 1510

224Q. Christianity, (3). An overview of Christianity from New Testament times to the present, stressing historical developments in religious life and thought. Catholic, Protestant and Orthodox Christianity are treated. Contemporary trends and problems are explored. A 15 224Q 0 1510

225. Jesus, (3). There have been varied responses to and multiple interpretations of the life and teachings of Jesus. This course examines the development and function of traditions about Jesus in Biblical, extrabiblical and more recent, popular sources. A 15 225 0 1510

230. Jewish-Christian Relations, (3). An exploration of the significant historical and ideological roots of Jewish-Christian relations through the writings of major religious thinkers such as St. Augustine, Martin Luther and Martin Buber. Themes include law and Gospel, the concept of the Messiah, the God of Israel, the Land of Israel and the question of a modern Jewish-Christian dialogue. A 15 230 0 1510

240. Religion in America, (3). A survey of the beliefs, practices and issues current in American religious life. The impact of mass culture and the influence of the modernist trend is given special attention. A 15 240 0 1510

245. Islam, (2). The religion in its geographical, social, political and cultural context, both Arab and non-Arab. A 15 245 0 1510

250Q. Eastern Religions, (3). An introduction to the religions of India and China. Religions studied and contrasted include Hinduism, Buddhism, Jainism, Taoism and Confucianism. An attempt is made to understand the religious life and texts of these religions from the vantage point of the believers themselves. A 15 250Q 0 1510

255, Zen and Taoism, (3). Zen is a form of Buddhism that emphasizes spontaneity and the ultimacy of the here and now, employing startling non-intellectual methods to free minds of the routine world of distinctions, plurality and linear time. It represents a vision that is at once Buddhist and deeply Chinese; its most distinctive features may in fact be best understood as a Buddhist development of the Eastern world of the psychic, the occult, the astral, is the subject of philosophical/psychological investigation. Topics include psychic out-of-body states, ESP, clairvoyance, telepathy, ethereal bodies in Hinduism and the Tibetan Bardos. Lecture, discussion and student reports. Visits by persons with expertise in psychic reading, out-of-body states, Kirlian photography and ESP. A 15 2600 0 1510

280. Special Studies, (3). A concentrated examination of a significant figure, event or issue in religion or the study thereof. Repeatable for credit. Prerequisite: departmental option. A 15 280 0 1510

281. Cooperative Education, (1-4). Offered on a C/NCrN basis. A 15 281 2 320

Upper-Division Courses

311. Old Testament Topics, (3). An in-depth study of a major facet of the religion of the Hebrew Bible, such as prophecy, eschatology, covenant, prayer, historiography and wisdom. A 15 311 0 1510

321. New Testament Topics, (3). An in-depth study of a major facet of the religion of the New Testament, such as the synoptic traditions, Johannine theology, Pauline theology, apocalyptic and canonization. A 15 321 0 1510

323. Protestantism, (3). This course traces the development of the Protestant Christian tradition and analyzes its distinctive themes. After a historical survey of this family of Christianity, the course explores distinctive Protestant themes, such as justification by faith, the primacy of conscience and the primacy of scripture, integrating them with current phenomena. A 15 323 0 1510

331. Modern Protestant Theologians, (3). Critical study of how Protestant theologians in the 19th and 20th centuries responded to modern thought. Includes selections from such theologians as Schleiermacher, Töloesch, Kierkegaard, Brun, Bultmann, H. R. Niebuhr, Reinhold Niebuhr and Tillich. A 15 331 0 1510

333Q. Women and Religion, (3). Cross-listed as WS 333. An examination of past and present images and roles of women in religious traditions. The course looks at women in the Bible as well as contemporary criticisms of patriarchal religion and resources for change. A 15 333Q 0 1510

346. Philosophy of Religion, (3). Cross-listed as Phil. 346. A 15 346 0 1510

362. Modern Judaism, (3). A survey of the varieties of Judaism that have arisen since the Enlightenment. The course examines the origins, beliefs and practices of modern Orthodox, Conservative, Reconstructionist and Reform Judaism. In what ways are these different forms of Judaism particularly "modern"? In what ways are they continuations of an older tradition? A 15 362 0 1510

364. Zionism and Israel, (3). An examination of the national element in Judaism and the movement that has arisen in relationship to this nationalism in the 19th and 20th centuries. The course concludes with an investigation into the relationship between Zionist ideals and the modern state of Israel. A 15 364 0 1510

400. Comparative Religion, (3). An observation and analysis of the patterns found in the characteristic religious phenomena (e.g., myths, symbols, rites, institutions), with a view to a systematic understanding of man's religious life as it has expressed itself throughout history. A 15 400 0 1510

419. Modern Atheists, (3). An examination and critical evaluation of some of the seminal critiques of religion in general and Christianity in particular that have been produced in the modern world. Includes selections from such figures as Spinoza, Voltaire, Feuerbach, Marx, Nietzsche, Freud and Camus. A 15 419 0 1510

421. Sociology of Religion, (3). Cross-listed as Soc. 521. A 15 421 0 1510

422. Greek and Roman Religion, (3). The transformations in the religions of the Mediterranean world and the Near East between the conquests of Alexander the Great and the triumph of Christianity under Constantine. The course covers the traditional forms of Greek and Roman religion, the impact of Greek culture and religion on the East after Alexander, the mystery religions, the spread of oriental cults in the Roman Empire, Gnosticism, astrology and the development of Christianity within the Roman Empire. At its most inclusive level, the course deals with the particular religious syncretism subsisting at the basis of Western Christianity. The course examines Greek and Roman patterns of thought in the Christian world of late antiquity. A 15 442 0 1510

446. Violence, (3). A critical examination of the relationship between religion and violence as expressed in war, revolution, criminality and interpersonal relationships. Special attention is given to the ways religions have justified, tried to limit or ameliorate violence. A 15 446 0 1510

461. Spiritual and Psychic Experience, (3). An interdisciplinary study of the variety of spiritual and psychic experiences that are reported in the historical record. Topics include: conversion, shamanistic experiences, spiritual healing, paranormal visions, voices and knowledge. A 15 461 0 1510

465. Meditation and Spiritual Growth, (3). The course focuses on three interrelated topics: (1) biofeedback and meditational training, (2) spiritual disciplines such as prayer, contemplation, fasting and service in religious traditions; and (3) selected personal growth disciplines that appear in the contemporary human potential movement. A 15 465 0 1510

476. The Reformation, (3). Cross-listed as Hist. 576. A 15 476 0 1510

480. Special Studies, (3). A concentrated study of a theologian, a theorist of religion or a religious issue announced by the instructor when the course is scheduled. Repeatable for credit. Prerequisite: instructor's consent. A 15 480 0 1510

481. Cooperative Education, (1-4). Offered on a C/NCrN basis. A 15 481 2 1510

490. Independent Work, (1-3). Designed for the student who is capable of doing advanced independent work in a specialized area of the study of religion that is not formally offered by the department. Repeatable for credit. Prerequisite: departmental consent. A 15 490 3 1510

Courses for Graduate/Undergraduate Credit

750. Workshop in Religion, (2-4). A 15 750 0 1510

790. Independent Study, (1-3). Designed for the student who is capable of doing graduate work in a specialized area of the study of religion that is not formally offered by the department. Repeatable for credit. A 15 790 0 1510
Sociology/ Social Work

A major in sociology provides students with an understanding of human behavior in personal relations such as the family and friendships and how human behavior is affected by larger societal influences such as the economy, bureaucracies and social problems. This understanding is useful in such fields as human services, business and law.

Students may choose the standard major which allows for personally tailored specialization, or they may elect to enroll in the emphasis in human development which has a more applied focus. Both programs prepare students to pursue a career upon graduation and/or enter a graduate program in sociology.

Major. A major in sociology consists of at least 15 hours, including:

- Soc. 111Q, Introduction to Sociology (3 hours)
- Soc. 212, Introduction to Social Research (3 hours)
- Soc. 501, Sociological Statistics (3 hours)
- Soc. 510, Field Research Methods, or Soc. 511, Applied Quantitative Research (3 hours)
- Soc. 645, History of Sociological Theory, or Soc. 646, Principles and Concepts (3 hours)

Certain courses in related departments that meet the particular needs of the students and are approved by their advisers may be counted toward a sociology major. No more than six hours of such courses may be included. With the exception of SW200Q and 500, social work courses do not count toward the major.

Minor. A minor in sociology consists of at least 15 hours, including:

1. Soc. 111Q, Introduction to Sociology (3 hours), and
2. A minimum of six hours of upper-division courses (500-level and above).

No social work courses may be counted toward a minor.

Emphasis in Human Social Development. Students in sociology may complete a special emphasis in human social development. Courses included in this emphasis are:

Required Core (15 hours)
- Soc. 111Q, Introduction to Sociology (3 hours)
- Soc. 212, Introduction to Social Research (3 hours)
- Soc. 501, Sociological Statistics (3 hours)
- Soc. 510, Field Research Methods, or Soc. 511, Applied Quantitative Research (3 hours)
- Soc. 645, History of Sociological Theory, or Soc. 646, Principles and Concepts of Sociology (3 hours)

Option Courses (12 hours)
- Soc. 300, Social Stages of Life (3 hours)
- Soc. 316, The American Male, or Soc. 516, Sociology of Sex Roles (3 hours)
- Soc. 315Q, Courtship and Marriage, or Soc. 515, Sociology of the Family (3 hours)

Sociology Electives (3 hours)
- Soc. 315Q, 316, 515 or 516 when not counted as part of the option courses.

Any other courses in sociology may also be counted toward the emphasis with advisor's consent.

Students are encouraged to complete their distributional requirements by taking related courses such as SW 3400 and Rel. 215 as well as courses in related fields such as instructional services, women's studies and anthropology.

Sociology

Lower-Division Courses

100G, Sociology and Everyday Life, (3). Relates current sociological thought to everyday life experiences. The underlying assumption is that the discipline of sociology can effectively broaden the perspective of individuals and assist them in understanding the organization of social events facing them every day. A wide range of topics are illuminated: family relations, religion, work relations, recreational and leisure activities, education experiences, child and adult socialization, interpersonal relations in public and private settings, urban/rural living and facts and fashions. The course is flexible to allow students to explore, in depth, their own unique life experiences within a sociological framework. A 25 1100G 02208

111Q, Introduction to Sociology, (3). Introduction to basic concepts, propositions and theoretical approaches of sociology, including elementary methods of studying social phenomena. This course serves as the basic course for students who intend to take additional courses in sociology. A 25 11110 02208

212, Introduction to Social Research, (3). A survey of the many research techniques found in sociology and related fields. This course stresses conceptual understanding of all phases of the research process. Prerequisite: Soc. 111Q. A 25 212 02208

220Q, Contemporary Social Problems, (3). An analysis of contemporary American social problems with an emphasis on urban social problems. A 25 22020 02208

Upper-Division Courses

300, Social Stages of Life, (3). This course examines the development and maturation of the social self through the various stages of life, i.e., childhood, adolescence, early adulthood, middle age and old age. Topics range from dating and marriage to the mid-life crisis. Attention is given to the various stages of adult life and how the interplay of social and historical events with personal experiences affects the self and related entities. Prerequisite: Soc. 111Q. A 25 300 0 2208

301. Computers and Society, (3). The course has two major objectives: (1) to examine the interactions between humans and microcomputers and (2) to study the effect of microcomputers upon social interaction and stratification within society. In particular, the course focuses upon the work setting and the family. Some of the topics covered include new social roles (programmer, hacker, the cyber-subculture, the computer as a family member; the computer as a powerful user in the work setting; computer deviance; and the computer and the disadvantaged). A cross-cultural and historical perspective is utilized where appropriate. A 25 301 0 2208

315Q, Courtship and Marriage, (3). The emphasis is on courtship and marriage processes as they exist in the United States today. The course is designed to aid students in the acquisition of a sociological perspective of the courtship process through an examination of social class, sex roles, and human sexuality. Mental interaction, parenthood, marital dissolution and the future of marriage constitute the emphasis for the latter half of the course. A 25 315Q 0 2208

316, The American Male, (3). Cross-listed as WS 316. The male role in America is examined from a variety of sociological perspectives and within particular settings, for example, work, family and leisure. Other relevant topics are socialization, intimacy and adult developmental stages and crises. Changing male roles produced by strains and conflicts in contemporary America are discussed. A 25 316 0 2208

318, Environmental Sociology, (3). Explores relationships between humans and their environment. Particularly emphasized are social variations in environmental usage, effects of overpopulation, resource utilization, pollution and possible solutions to environmental problems. A 25 318 0 2208

322, Deviant Behavior, (3). The structure, dynamics and etiology of those behavior systems that are integrated around systematic violations of the control norms. Compelling theories are presented and evaluated within the context of the assumption that man is a social product. Prerequisite: Soc. 111Q. A 25 322 0 2208

325, Parenting, (3). The role of parenting in the relation of population to world problems, a number of different perspectives. The focus is on the major developmental changes facing couples as they move through the family life cycle. Among the topics covered are the decision to have children, rearing children, the transition into parenthood, parent-infant relationships, parents and school-age children and the transition from active parenthood. Other topics discussed include parental values, divorce, step-parenting and dual-career families. Several different parenting techniques and styles are discussed as well. A 25 325 0 2208

330, Social Inequality, (3). An analysis of status, class and caste in various societies, especially in American society. The relationship of social inequality to various social institutions is also included. Prerequisite: Soc. 111Q. A 25 330Q 0 2208

331, Population, (3). The size, composition, distribution and recent trends in the population of the world and the United States and related problems. Prerequisite: Soc. 111Q. A 25 331 0 2208

333Q, Sociology of the Future, (3). The fut
511. Applied Quantitative Research. (3). An examination of the survey as a tool used to address sociological questions. Topics include survey design, sampling, data collection techniques and interpretation of results. Students gain experience in designing and administering surveys. Prerequisite: Soc. 212. A 25 511 0 2208

513. Sociology of Aging. (3). Cross-listed as Geron. 513. Analysis of the social dimensions of old age, including changing demographic structure and role changes and their impact on society. Prerequisite: Soc. 1110. A 25 513 0 2208

515. Sociology of the Family. (3). Analysis of American family behavior, including the selection of marriage partners, the husband-wife and parent-child relationships and the relation of these patterns of behavior to other aspects of American society. Prerequisite: Soc. 1110. A 25 515 0 2208

516. Sociology of Sex Roles. (3). Cross-listed as WS 516. A course analyzing the institutional sources of man's and woman's roles, the source of changes in these roles, the consequent social conflicts. Prerequisite: Soc. 1110. A 25 516 0 2208

517. Intimate Relations. (3). This course is designed to examine the social dimensions of intimacy. The course includes an analysis of intimacy in different types of relationships, i.e., romantic, friendship, etc. Theory and research in the area are reviewed with a special focus on the place of intimacy in social interaction. Prerequisite: Soc. 1110. A 25 517 0 2208

523. Sociology of Law. (3). The study of law and legal institutions within their social context. Prerequisite: Soc. 1110. A 25 523 0 2208

525. Political Sociology. (3). Social basis and consequences of political behavior. Also included are the study of power and authority, problems in the development and maintenance of viable democratic political structures and bureaucratic organization and power. Prerequisite: Soc. 1110. A 25 526 0 2208

527. Violence and Social Change. (3). The analysis of the causal processes and functions of extreme and violent political behavior, i.e., revolutionary, insurrectionary and protest movements. The course includes an analysis of consequences for social change. Prerequisite: Soc. 1110. A 25 527 0 2208

534. Urban Sociology. (3). Urban population, organization and institutions and programs of city planning. Prerequisite: Soc. 1110. A 25 534 0 2208

537. The Social Consequences of Disability. (3). Cross-listed as Geron. 537. An eclective survey of the social aspects of disability, showing the interplay of social roles and their influence on individuals; and the social construction of society. Prerequisite: Soc. 1110. A 25 537 0 2208

539. Juvenile Delinquency. (3). The factors related to juvenile delinquency and the measures of treatment and prevention. Prerequisite: Soc. 1110. A 25 539 0 2208

540. Criminology. (3). The extent and nature of criminal behavior and societal reactions to it. Prerequisite: Soc. 1110. A 25 540 0 2208

541. Contemporary Corrections. (3). Historical and contemporary programs for the treatment of offenders, viewed as societal reactions to criminal behavior. Prerequisite: Soc. 539 or 540. A 25 541 0 2208

596. Internship. (1-6). A course used to supervise persons involved in internships or placements in the community where credit can be given. Prerequisite: departmental consent. A 25 596 2 2208

600. Selected Topics in Sociology. (3). Study in a specialized area of sociology with emphasis on student research projects. Areas covered include deviant behavior, political sociology, the family and others. Repeateable for a maximum of six hours credit. Prerequisites: Soc. 1110, instructor's consent and substantive area course. A 25 600 0 2208

645. History of Sociological Theory. (3). Analysis of emergence of sociological theory. Prerequisite: nine hours of sociology. A 25 645 0 2208

646. Principles and Concepts of Sociology. (3). Critical evaluation of major principles and concepts, their derivation and relationship to systematic theory. Prerequisite: nine hours of sociology. A 25 646 0 2208

651. Directed Research. (3). Designed to give the student further research skills in an area of special interest. All students are under the direction of a member of the graduate faculty who guides them in developing research skills. Prerequisites: Soc. 510 or 511 and instructor's consent. A 25 651 4 2208

670. Independent Reading. (1-3). Designed for the advanced student capable of doing independent work in an area of special interest. Prerequisites: 15 hours of sociology and instructor's consent. A 25 670 3 2208

750. Sociology Workshop. (1-3). A course designed to provide specialized instruction, using a variable format, in a sociologically relevant subject. A 25 750 2 2208

Courses for Graduate Students Only

800. Research Methods in Sociology. (3). The application of research methods to sociological data. Topics include research design, sampling, data collection techniques, computer-based analysis of data, scaling and report writing. Students are expected to design their own research projects. Prerequisites: Soc. 510 or 511 and departmental consent. A 25 800 9 2208

805. Seminar in Qualitative Methodology. (3). An in-depth examination and practical application of various field research methods in sociology. Includes participant observation, in-depth interviewing, disguised observation and unobtrusive measures. Prerequisite: Soc. 510 or departmental consent. A 25 805 9 2208

815. Seminar on the Family. (3). Review of recent research on the family and the theoretical implications thereof. Prerequisite: Soc. 515. A 25 815 0 2208
515 or departmental consent. A 25 815 9 2208

820. Seminar in Social Movements. (3). Analysis of the elements in social movements as factors in social and cultural change. Prerequisite: departmental consent. A 25 822 9 2208

822. Seminar in Deviant Behavior. (3). In-depth examination of recent theory, methods and research in the area of deviance. Implications of future theory development are included as part of the course. Prerequisite: departmental consent. A 25 822 9 2208

825. Seminar in Organizational Analysis. (3). Exploration of selected problems in organizational theory based on major theoretical and empirical approaches, both classical and contemporary. Prerequisite: departmental consent. A 25 825 9 2208

830. Seminar in Stratification and Power Structure. (3). Analysis of the forms and dynamics of social inequality as a socio-political phenomenon. Class, status and power segmentation in American society is examined with reference to their spheres of influence and structural persistence and/or change. Prerequisite: Soc. 526 or departmental consent. A 25 830 9 2208

834. Seminar in Urban Sociology. (3). Independent research projects in urban sociology. Prerequisite: departmental consent. A 25 834 9 2208

839. Seminar in Juvenile Delinquency. (3). A study of juvenile delinquency from a number of theoretical frameworks, accemulating the contemporary context of the subject. The course covers topics of academic and practical interest related to delinquency, i.e. causes of delinquency, recent research, delinquency vis-a-vis this justice system, juvenile law and juvenile correction. Special interest is given to the changing face of delinquency in America today. Student research, through utilization of community resources, is encouraged. Prerequisite: Soc. 539 or departmental consent. A 25 839 9 2208

845. Seminar in Sociological Theory. (3). A course emphasizing continuities between European and American social theory. The perspective is both historical and analytical, spanning the 18th, 19th and 20th centuries, and concluding with the works of representative contemporary theorists. Prerequisite: Soc. 645 or 646 or departmental consent. A 25 845 9 2208

847. Seminar in Recent Developments in Sociology. (3). Major issues, new theories, new techniques of research, new areas of research and new applications. Repeatable for credit but not to exceed six hours. Prerequisite: 15 hours of sociology and departmental consent. A 25 847 9 2208

851. Directed Research. (1-3). Designed for the advanced student who wants to achieve research competence in a specific area. Each student is directed by a member of the graduate faculty in the development of a project leading to a thesis research. Prerequisites: Soc. 800 and instructor’s consent. A 25 851 4 2208

860. Proseminar-Teaching Sociology. (1). This course focuses on the teaching of sociology. Emphasis is placed on teaching techniques, course organization and evaluation. Prerequisite: graduate student status. A 25 860 0 2208

870. Independent Reading (1-9). Advanced systematic reading in a topical area under the tutelage of a member of the graduate faculty. Repeatable for credit not to exceed six hours. Prerequisite: departmental consent. A 25 870 3 2208


Social Work

A major and minor are provided in the sociology/social work department for training in various areas of social work and human services. Courses are designed primarily to prepare students for beginning professional social work practice at the baccalaureate level, but they also are valuable in preparing students for graduate training in social work. The social work sequence is useful for students planning to enter other helping professions as well as responsible community participation in human concerns. SWU's social work program is accredited by the Council on Social Work Education. Social work practice requires licensure by the state of Kansas.

Major. A major in social work requires at least 43 hours (34 hours in social work courses and nine hours in related departments) as follows: SW 200Q, 201, 500, 502, 550, 560, 601, 602, 604 and 605. This required curriculum includes nine hours in field instruction (practicum) courses: SW 602 and 605. Requirements in related departments include Soc. 212 and six hours from a list of social and behavioral science courses approved by the social work faculty and selected in consultation with a social work advisor.

Minor. A minor in social work requires at least 19 hours in social work courses as follows: SW 100Q, 200Q, 201, 500, 560 and 570. This required curriculum includes four hours in the internship course SW 570.

Lower-Division Courses

100Q. Explorations in the Helping Professions. (3). An introduction to the helping professions as they relate to the whole person. This multidisciplinary course emphasizes the common helping processes of each profession and how they developed and how they differentially relate to human problems. A 25 1000 Q 2104

150. Aspects of Social Work (Workshop). (2-5). Aspects of social work practice relating primarily to paraprofessional work with practitioners regarding basic human needs and the fundamentals of helping. May be offered together with SW 750. A 25 150 2 2104

200Q. Understanding Social Welfare. (3). Introduction to a broad spectrum of community services with emphasis on public and private systems which address individual, family and group needs. The relations of area services to larger social welfare institutions and to cultural heritage are systematically examined, including unmet needs, policy trends, current issues and the normative aspects of determining who should be helped and how. A 25 200Q 0 2208

201. Introduction to Social Work Practice. (3). Introduction to the social work profession. Includes development of social work as a profession: the holistic approach and multifaceted intervention strategies used in practice; aspects of the problem-solving process and attention to the current trends in direct social services. Prerequisites: Soc. 1110 and Psych. 1110. A 25 201 Q 2104

340Q. Human Sexuality. (3). Cross-listed as WS 340. Provides a forum for information and discussion on topics relating to physical, psycho-social and cultural components of human sexuality. Selected topics include female and male sexual attributes and roles, sexual problems, alternative life styles, birth control values and cultural components of sexuality. A 25 340Q 0 0506

Courses for Graduates/Undergraduate Credit

500. Social Welfare Policy and Services I. (3). Descriptive and analytical approach to the social welfare system, emphasizing its historical, structural and value bases. Alternative program strategies of meeting individual and group needs are included. Prerequisites: SW 200Q and Soc. 212. A 25 500 0 2104

502. Strategies and Techniques in Interventive Skills. (4). This course introduces students to the study and practice of interpersonal professional interaction skills within the framework of a social work helping process. The course focuses on developing skills in professional observation, communication, interviewing, recording and reporting. The course is didactic as well as interactive and includes an integrated laboratory component which focuses on experimental learning. Required for social work majors and open to nonmajors. Prerequisite: SW 201 for social work majors. Departmental consent for nonmajors. A 25 502 Q 2104

550. Social Welfare Policy and Services II. (3). Analytical approach to social welfare problems, policies, programs and issues, including an analysis of the influence of values on the formation of social welfare policy. In-depth examination of selected issues in public and voluntary areas and alternative methods of meeting needs are included. Prerequisite: SW 500. A 25 550 Q 2104

551. Independent Studies. (1-3). Individual projects designed by social work students who are capable of doing independent work in areas of special interest. Repeatable for credit not to exceed six hours. Prerequisite: Instructor’s consent. A 25 551 3 2104

550. Personal Human Interaction within Society. (3). This course provides students with an understanding of social behavior within which the integration of prior knowledge can be made regarding physical, mental and social development of the human being, perspectives on Aging and cultural variations and their effect on human adaptability in the social environment and the relationship of those entities to beginning professional social work practice. Prerequisites: SW 200Q and six hours from a list of social and behavioral science courses ap-
The Bachelor of Arts (BA) degree in speech communication educates the student in the study, criticism, research, teaching and application of the artistic, humanistic and scientific principles of communication.

Effective communication has been viewed as the social matrix or common denominator of educated persons, essential for personal satisfaction and professional competence. Knowledge of, and competence in, communication and its various contexts—interpersonal (one-to-one), public (one-to-many in a face-to-face setting) and mass (one-to-many in a mediated fashion) are vital in contemporary society.

Speech communication majors pursue many careers, a few of which are law, ministry, politics, broadcasting, broadcast-journalism, media or other communication-related management, personnel training and development, and teaching.

A major in the Department of Speech Communication requires a minimum of 35-39 hours with a specialization in one of the following areas:

1. Rhetoric and Communication (36 hours)—Speech 111, 112, 211, 213Q, 221Q or 222, 228Q and at least 18 hours of electives chosen with the area advisor’s consent from rhetoric and communication courses. Majors in rhetoric and communication are encouraged to participate in forensic activities.

2. Radio-Television Film (35 hours)—Speech 114Q, 214, 215, 220Q or 320, 221Q or 222, 304, 332, 335 and 360 and at least 12 hours of electives. Six of the 12 hours of electives must be in courses at the 600 level or above. Six of the 12 elective hours may be taken in other areas related to radio, television or film with permission of adviser; the remaining six must be taken in radio-television-film courses.

Students specializing in speech who intend to teach at the secondary level must meet the following requirements for their area of specialization:

1. Rhetoric and Communication (36 hours)—Speech 111, 112, 114Q, 211, 213Q, 221Q, 222, 228Q, 650, 661, plus six hours elected with the area adviser’s consent from rhetoric and communication courses.

2. Combined Theatre and Rhetoric and Communication (39 hours)—Speech 111, 112, 211, 213Q, 221Q, 222, 650 and 661; Thea. 249Q, 244 and 259; plus six hours of electives with the area adviser’s consent from theatre courses.

Students planning to teach should also check the state certification requirements to make sure that they will fulfill the necessary requirements. Students must meet the requirements for the professional education sequence and, prior to admission to the student teaching semester, must have a 2.500 overall grade point average in their major field and recommendation from the major department.

Students in Fairmount College of Liberal Arts and Sciences must meet the graduation requirements for both Fairmount College and the College of Education.

Broadcast-Journalism Combined Major (36 hours)—Speech 114Q, 214, 221Q or 222, 304, 332, 352 and 606 and Journ. 200 and 500, plus six hours of electives. The six elective hours must be taken in upper-division speech or journalism courses. Students must also have a concentration (or minor) of not fewer than 15 hours in one additional field of study with the consent of their adviser.

Minor. A minimum of 15 hours must be selected with the approval of the speech communication department. At least six of the 15 hours must be upper-division courses. Students interested in a radio-television-film minor are required to have a minimum of 18 hours and must take Speech 114Q, 214, 304 and 332, plus six hours of electives with the area advisor’s consent.

General

Lower-Division Courses

111. Basic Public Speaking. (3). A study of basic concepts of speech communication and listening as applied to public speaking. The course is designed for students wishing to enhance leadership potential by improvement in traditional public speaking situations. Course is not counted toward a speech communication major. (The University’s requirement in oral communication may be fulfilled by completion of either Speech 111 or 112. For especially qualified students, an exemption or advanced standing examination is available. For further information, contact the speech communication department.) A 27 111 0 1506

112. Basic Interpersonal Communication. (3). To develop an awareness of the elements of interpersonal communication and to aid the student in establishing more meaningful and satisfying interpersonal relationships through participation in group dynamics. The course is not counted toward a speech communication major. (The University’s requirement in oral communication may be fulfilled by completion of either Speech 111 or 112. For especially qualified students, an exemption or advanced standing examination is available. For further information, contact the speech communication department.) A 27 112 0 1506

281. Cooperative Education. (1-4). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional
experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated once for credit. Prerequisite: departmental consent. Cr/NoC. A 27 261 2 1506

Upper-Division Course

481. Cooperative Education. (1-4). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated once for credit. Prerequisite: departmental consent. Offered for Cr/NoC only. A 27 481 2 1506

Courses for Graduate/Undergraduate Credit

650. Instructional Communication. (3). The study and practice of communication concepts, processes, technologies and strategies related to formal instruction and learning outcomes. By means of structured experiences, students develop competencies in (1) determining appropriate instructional goals, (2) designing instructional strategies to achieve learning outcomes, (3) utilizing visual, vocal and verbal communication skills to implement instructional strategies and (4) assessing the proficiency of communication skills used for instruction. Course flexibility in planning and emphasis provides for the utilization of instructional communication across disciplines and educational levels as well as in most professional and training settings. A 27 650 0 1599

660. Seminar in Speech. (2-3). Special seminars designed to treat current areas of interest or problems in: (a) rhetoric and communication, (b) theatre, (c) radio-television-film: speech education. Repeatable for credit in different topics only. A 27 660 0 1599

661. Directing the Forensics Program. (3). A study of the methods and procedures in coaching and directing the high school and collegiate forensics programs (debate and individual events). The future teacher is made aware of the literature and professional organizations in the field. A 27 661 0 1599

665. Communicative Disorders. (3). Cross-listed as CDS 705. A survey of speech, language and hearing disorders; their identification and treatment, and consideration of the roles of health professionals and educational specialists in the total rehabilitative process. Background in normal communicative structures, processes and acquisition is provided for understanding communicative disorders. Topics introduced include language disabilities in children, adult aphasia, articulation disorders, voice disorders, d.eaff palatal, laryngectomy, stuttering, cerebral palsy and hearing impairment. A 27 665 0 1220

675. Directed Study. (2-4). Cross-listed as Thea. 675. Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 27 675 3 1599

750. Workshops in Speech. (2-4). A 27 750 2 1599

Radio—Television—Film

Lower-Division Courses

114Q. Introduction to Radio and Television. (3). The structure and operation of broadcasting in the United States. Includes review of radio and television advertising, programming, production and policy. Emphasis is placed on the roles of media in society and the impact of technology on communication. A 27 114Q 0 0603

214. Radio Production. (3). Production and direction of radio programs. Hands-on use of professional studio equipment. Hands-on use of all standard radio sound equipment to learn techniques of sound blending and reproduction. A 27 214 1 0603

215. Radio Practicum. (2). Application of theory to practice by performing assigned activities at KMMU for six hours per week. Prerequisite: Speech 214 or instructor's consent. A 27 215 0 0603

220Q. Introduction to Film Studies. (3). Emphasis is placed on the nature and function of film as a mode of communication with attention to film theory and technical criticism. Selected films are shown in class. A 27 220Q 0 0603

Upper-Division Courses

304. Television Production. (3). Basic techniques, procedures and techniques of TV production, including operation of studio equipment and direction of TV programs. Prerequisite: instructor's consent or Spch. 214. A 27 304 0 0603

315. Advanced Radio Practicum. (2). Application of theory to practice by performing assigned activities at KMMU for six hours per week. Prerequisite: Speech 215 or instructor's consent. A 27 315 0 0603

320. Cinematography. (3). A production course in motion picture making. Theory and technique are both emphasized with special attention to the conception and use of camera and editing equipment for film projects. A 27 320 0 0603

322. Broadcast News. (3). Cross-listed as Journ. 322. Theory and technique of preparing news for the broadcast media. Students prepare news releases and news reports for public radio stations KMMU. Prerequisite: Journ 322. A 27 322 0 0602

332. Radio-Television Writing. (3). Writing formats, commercials, continuity and drama for radio and television. A 27 332 0 0603

Courses for Graduate/Undergraduate Credit

509. Directed Projects in Instructional Television. (2). Practical assignments in instructional television and cablecasting. Activities include eight hours per week in campus television exercises. Prerequisites: Speech 304 and instructor's consent. A 27 509 0 0603

522. Advanced Broadcast News. (3). Cross-listed as Journ. 522. A course in the techniques of preparing news for radio and television presentation with emphasis on actual work in radio and television newsrooms. Prerequisite: Speech 322 or Journ. 322. A 27 522 1 0603

530. Media Performance: Radio. (3). This course provides experiences in the various areas of radio performance, from newscasts to radio drama, commercials to PSA's. It is designed to extend, through simulated experiences as well as on-air work, student performance skills, capabilities and knowledge in this public communication medium. Prerequisites: Spch. 311 or 112 and Spch. 221Q or 22Q or Thea. 243. A 27 530 0 1599

531. Media Performance: Television. (3). This course provides experiences in the various areas of television performance, from newscasts to interviews, sports to commercials. It is designed to extend, through simulated experiences, to extend student performance skills, capabilities and knowledge in this public communication medium. Prerequisites: Spch. 111 or 112 and Spch. 221Q or 22Q or Thea. 243. A 27 531 0 1599

604. Advanced Television Production and Direction. (3). Application of television production and direction principles and techniques for expression of ideas and concepts. Execution of visual and audio impressions in relation to effective communication. Prerequisite: Speech 304 or instructor's consent. A 27 604 2 0603

605. Radio and TV Station Management. (3). The organization and management of radio and television stations, including administrative, programming, technical and sales problems and physical facilities. Prerequisite: departmental consent. A 27 605 0 0603

606. Broadcasting and the Law. (3). Explorations of legal issues associated with radio and television broadcasting. Emphasis is on the legal implications of work in the broadcasting industry emanating from laws, rules and regulations of various governmental agencies, industry self-regulation and citizen action. Prerequisites: Speech 304 or instructor's consent. A 27 606 0 0603

607. Radio and TV Programming. (3). Planning, developing and scheduling based upon audience and market analysis, programmed formats, principles of evaluation and criticism. A 27 607 0 0603

609. Educational and Instructional Broadcasting. (3). Investigation and application of production techniques for educational and instructional broadcasting, with emphasis on television. Prerequisite: Speech 304. A 27 609 0 0603

620. Practicum in Broadcast Journalism. (3). Field experience in broadcast journalism. Includes reporting and writing about events in the community. Story assignment and preparation will occur under the instructor's guidance and will be broadcast over WUSU Cable Channel 13. May be repeated for credit with adviser's consent. Prerequisite: Speech 522. Journ 522 or instructor's consent. A 27 620 2 0603

Rhetoric and Communication

Noncredit Course

011. Reducing Fear of Speaking. (2). A course designed for students who feel an unwarranted degree of fear, nervousness or stage fright when confronting situations calling for oral communication, especially but not entirely, before an audience. The goal of the course is to reduce the fear of such situations through practice in supportive settings and other specific techniques developed in the field of communication. An emphasis on speech communication that have been demonstrated effective in reducing communication anxiety. A 27 011 0 1506
Lower-Division Courses

150A. Debate Workshop. (2). Instruction in theory and techniques of debate and preparation for debating the national high school debate topic. Not repeatable for credit. Prerequisite: departmental consent. A 27 150A 5 1599

190G. Crises in Communication. (3). An exploration of several alternative frameworks by which man copes with and controls the communication environment. The student has both observational and experiential opportunities to explore the various patterns used by humans to symbolically interact with themselves, each other and entire cultures. Multimedia instructional procedures are utilized. A 27 190G 0 0601

202. Debate and Forensics. (2). Research and preparation for debate and individual speaking events, participation in intercollegiate debate and/or forensics competition and debate and forensics squad meetings. Repeatable for a maximum of four hours credit. Prerequisite: departmental consent. A 27 202 5 1506

211. Persuasive Speaking. (3). Training in influencing human behavior in socially acceptable ways via the spoken word. A 27 211 0 1506

213Q. Argumentation and Advocacy. (3). A study of the principles of effective rational discourse, oral and written, dealing with controversial issues in public deliberative, forensic and educational areas. Includes valid and fallacious reasoning as well as tests of evidence. A 27 213Q 0 1506

221Q. Oral Interpretation. (3). Cross-listed as Thea. 221Q. The development of the mental, vocal and analytical techniques essential to the oral interpretation of literature. A 27 221Q 0 1007

222. Improving Voice and Diction. (3). Cross-listed as Thea. 222. A course for students wishing to improve their speaking voices and gain greater control over their pronunciation of spoken English. The course is performance oriented, however, the anatomy of the vocal mechanism and the International Phonetic Alphabet are studied for practical application in the improvement of voice and diction. A 27 222 0 1506

228Q. Small-Group Communication. (3). A study of the nature and functions of groups and development of skills for identifying and evaluating communication behavior as reflected in human interaction in small-group situations. A 27 228Q 0 1506

Upper-Division Courses

312Q. Nonverbal Communication. (3). A study of theory and research in nonverbal communication. Students explore different aspects of nonverbal communication and engage in original research and study in the field of nonverbal communication. Emphasis is given to the application of nonverbal communication to the total human communication process. Prerequisite: Spch. 111 or 112. A 27 312Q 0 1506

325. Business and Professional Speaking. (3). A study of the basic concepts of public speaking and discussions as they apply to the business and professional person. Emphasis is given to public presentations, group leadership and interpersonal communication as appropriate to business and professional oral communications. A 27 325 0 1506

335. Development of Rhetorical Theory. (3). Review of the foundational theories of contemporary communication theory from the perspective of selected individuals and works encompassing Graeco-Roman, Medieval English and American rhetorical thought. A 27 335 0 1506

402. Debate and Forensics. (2). Research and preparation for debate and individual speaking events, participation in intercollegiate debate and/or forensics competition and debate and forensics squad meetings. Repeatable for a maximum of four hours credit. May not be core for a major. Prerequisite: departmental consent. A 27 402 5 1506

Courses for Graduate/Undergraduate Credit

615. Language and Symbolic Processes. (3). Application of the theoretical framework of general semantics, linguistics and psycholinguistics to the study of language behavior. Analysis of language usage that leads to conflict, confusion and misdirection and development of methods of accuracy and precision in language usage. A 27 615 0 1506

635. Leadership Technique for Women. (3). Cross-listed as WS 635. A course designed to provide the woman student experience in decision making and to improve skills in leadership through role playing and exercise in group dynamics. A 27 635 0 1506

636. Advanced Public Speaking. (3). Theory and practice in the various forms of platform speaking for the academically mature student. Course includes such special forms as the after-dinner speech and speeches of goodwill, tribute, keynote and courtesy. A 27 636 0 1506

702. Contemporary Theories of Oral Communication. (3). Conceptual models useful in the scientific study of speech and application from selected areas of psychology, sociology, anthropology and other related fields. A 27 702 0 1506

712. Advanced Interpersonal Communication. (3). A course of advanced exploration of concepts and variables in interpersonal communication through the study of different theories as well as practical experiences in dyadic and small-group communication. Prerequisite: Spch. 112 or instructor's consent. A 27 712 0 1506

737. Processes and Effects of Mass Communication. (3). An exploration into the effects of mass communication at the individual, social and cultural levels. A 27 737 0 1506

770. The Audience. (3). Application of research techniques to the measurement of audience behavior with particular emphasis on mass media audiences. Topics include focus group interviews, survey research and radio and television ratings. A 27 770 0 1506

830. Theories of Rhetoric: Classical. (3). Cross-listed as Eng. 825. An intensive study of the rhetorical theories of classical writers from 460 b.c. to the decline of Roman oratory. Principal emphasis is on Isocrates, Plato, Aristotle, Quintilian, Cicero and Longinus. A 27 830 0 1506

831. Theories of Rhetoric: Renaissance to Early Modern. (3). Cross-listed as Eng. 826. A study of the emerging patterns of rhetoric from the Second Sophistic to modern times. Analysis is made of the rhetorical systems associated with such figures as Augustine, Ficino, Erasmus, More, Gibbon, Steele, Rush, John Quincy Adams, Blair, Campbell and Whately. A 27 831 0 1506

850. Seminars in Speech. (2-3). Special seminars designed to treat problems in: (a) public address, (b) drama, (c) radio-televisio (or d) speech education. Repeatable for credit. A 27 850 9 1506

865. Organizational Communication. (3). Cross-listed as Mgmt. 866. An analysis of communication models with emphasis on their applications to communication problems in organizations. Social-psychological processes underlying interorganizational and social and cultural levels. A 27 865 0 1506

Women's Studies

The major in women's studies includes courses in various fields, especially in the humanities and social sciences, which present a coherent picture of woman in the past, her activities in the present and ways of increasing her capacity to function as a full human being in the present and the future. Students preparing for vocations which emphasize women's concerns are especially encouraged to pursue women's studies as a second major.

The major consists of at least 24 hours, including WS 387Q, 388Q, 580D and 635. In addition, appropriate courses may be selected from such fields as philosophy, sociology, social work, history, English, anthropology, religion, minority studies, psychology, speech and administration of justice. Courses counted toward a major or minor in another field may not be included. Students are encouraged to focus on either a humanities or a social science/social service track. The minor consists of 15 hours, including WS 387Q and 388Q.

Lower-Division Courses

180. Special Topics. (1-2). Topics vary by semester. Past topics have included such areas as the working woman, assertion training, domestic violence and rape information and prevention. A 35 180 0 4903

190G. The American Woman. (3). Students will examine the ways in which mainstream society "defines" the American woman. The class will examine a wide range of cultural "phenomena" as it studies gender identifica-
tion. Topics will range from children’s toys to music videos, from standards of physical beauty promoted in advertising to daytime soap operas, and more. A 35 190Q 0 4903


Upper-Division Courses

316. The American Male. (3). Cross-listed as Soc. 316. A 35 316 0 2208

333. Women and Religion. (3). Cross-listed as Rel. L 333Q. A 35 333 0 1510

338. Philosophy of Feminism. (3). Cross-listed as Phil. 338. A 35 338 0 4902

340. Human Sexuality. (3). Cross-listed as SW 340Q. A 35 340 0 2104

380. Special Topics. (1-3). This course focuses on intermediate topics of interest to women’s studies. A 35 380 0 4903

380B. Biographies and Autobiographies of Great and Notable Women. (3). An examination of women’s contributions to society through their biographies and other writings. A 35 380B 0 4903

380C. International Women’s Issues. (3). Class analyzes women’s roles in the areas of equality, peace and development from an international perspective. A 35 380C 0 4903

380D. Women and Dependencies. (3). Course examines the various ways in which women are victims of their own dependencies in areas such as chemical dependency, social and prescriptive drugs, relationship dependencies, food disorders and fitness obsessions. A 35 380D 0 4903

380E. My Journal, My Self. (3). Course explores the literary genre of journal writing. A 35 380E 0 4903

382. Women in the Administration of Justice. (3). Cross-listed as AJ 382. A 35 382 0 2105

387Q. Women in Society: Cultural Images. (3). This course examines the roles, relationships and roots of women in our society as reflected in such areas as art, literature, myth, religion, psychology, education and politics. Women in other cultures and other times also are considered, as are feminist visions of the future. A 35 387Q 0 4903

388Q. Women in Society: Social Issues. (3). This course examines women’s efforts to claim their identity from historical, legal and social perspectives. Included for consideration are recent laws relating to women: contemporary issues (such as rape, day care, working women, the future of marriage); agencies for change; theories of social change; and the relationship of women’s rights to human rights. A 35 388Q 0 4903

390Q. Motherhood: Myths and Realities. (3). This course focuses on the nature of motherhood as idea, myth and experience. Stereotypes about motherhood, approaches to motherhood in various cultural settings and time periods, religious attitudes toward motherhood, the adult ‘child’ and her relationship with mother, the experience of childbirth, motherhood as related to economic and political realities and the future of motherhood are some of the topics explored in the course. A 35 390Q 0 4903

481. Cooperative Education. (1-4). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Offered on CR/NC only. A 35 481 3 4999

499B. Women in American Film. (3). Cross-listed as Amer. Stud. 499B. The changing role of women in 20th century American society can be understood by how they have been depicted in American films which both create cultural values and reflect them. A 35 499B 0 4903

Courses for Graduate/Undergraduate Credit

516. Sociology of Sex Roles. (3). Cross-listed as Soc. 516. A 35 516 0 2208

530. The American Woman in History. (3). Cross-listed as Hist. 530. A 35 530 0 2205

533. Women and the Law. (3). This course is an introduction to the legal aspects of women’s rights, including the equal rights amendment to the U.S. Constitution; right to choose a name; sex discrimination in employment, e-ducation and credit; welfare and criminal justice. Consideration also is given to women’s role in the field of law, such as lawyers and legislators. A 35 533 0 0313


535. Images of Women in Literature. (3). Cross-listed as Eng. 535. Women characters as stereotypes, archetypes and fully developed human beings in the works of various authors. A 35 535 0 1502

536Q. Writing by Women. (3). Cross-listed as Eng. 536. The work of major women writers, both British and American, in poetry and prose. A 35 536Q 0 1502

542. Women in Other Cultures. (3). Cross-listed as Anthro. 542. A 35 542 0 2202

570. Directed Readings. (1-3). This course is designed for students who wish to pursue special reading or research projects not covered in course work. A 35 570 3 4903

580. Special Topics. (1-3). This course focuses on advanced topics of interest to women’s studies. A 35 580 0 4903

580C. Contemporary Women’s Art. (3). This course focuses on works by women in the visual arts, music and poetry since the 1960s. A 35 580C 0 4903

580D. Theories of Feminism. (3). This course examines various approaches taken by feminist theorists through role playing and of the cultural status of women. A 35 580D 0 4903

580J. Women’s Traditional Arts. (3). Class will survey various art forms which are usually identified as the creative work of women. Using such examples as quilts or other textile arts, the students will focus not only on the aesthetics of these traditional forms, but also on their historic and social value to the culture. A 35 580J 0 4903

589. Seminar in Women’s Issues. (3). Designed to give students experiential learning in interdisciplinary skill development related to women’s issues in law, psychology, sociology, economics and literature and to offer independent study and field work in the students’ area of specialization related to women. A 35 589 0 4903

535. Leadership Techniques for Women. (3). Cross-listed as Speech 635. A course designed to provide the woman student experience in decision making and to improve skills in leadership through role playing and exercise in group dynamics. A 35 635 0 1599

750. Current Concerns of Women. (2-3). Workshop. A 35 750 0 4903

870. Directed Readings. (2-3). Designed for graduate students who want to pursue research in areas not normally covered in course work. Repeatable for credit with department consent. Prerequisite: instructor’s consent. A 35 870 4 4903

880. Seminar in Women’s Studies. (3). Intensive study of selected women’s studies topics. Seminar discussion, reports and research project. Repeatable for credit with department consent. Prerequisite: instructor’s consent. A 35 880 9 4903

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R, 4L means three hours of lecture and four hours of lab.
University Faculty—Fall, 1987

Date or dates following title refer to time of initial and successive appointments. Faculty listed have academic rank.

Aagaard, Alan A., Assistant Professor of Industrial Technology. BA, California State University, Long Beach. 1969; MA, 1970; EdD, University of Nebraska. 1972.

Armstrong, Richard N., Visiting Assistant Professor of Speech Communication. BA, Southern Utah State College. 1972; MA, Brigham Young University. 1974; PhD, Bowling Green State University. 1978.


Bajwa, Prem N., Associate Professor of Mathematics and Statistics (1966). BA, Punjab University. 1951; MA, 1954; MS. Case Western Reserve University. 1967; PhD, 1968.

Bakken, Linda, Assistant Professor of Educational Psychology (1985). BA, Northern Michigan University. 1960; MS, Utah State University. 1979; EdD, Boston University. 1983.


Bartel, Peter S., Assistant Professor of Physics (1965). AB, Bethel College. 1943; MA, University of Iowa. 1953.


Bish, John T., Assistant Professor of Biological Sciences (1963). BS. The Wichita State University. 1962; MS, 1965.

Black, Phillip C., Instructor of Tuba (1986). BM, Ball State University. 1977; MM, University of Nebraska. 1980.


Blaeske, Donald J., Associate Professor of Anthropology (1976). BA, University of Nebraska. 1969; MA. 1971; PhD, University of Wisconsin-Madison. 1975.

Blazieczek, Donald L., Assistant Professor and Chairperson of the Department of Administration of Justice (1976). BA, Northern Illinois University. 1967; MA. 1970; PhD, Michigan State University. 1976.


Blume, Nancy, Assistant Professor of Nursing (1985). BSN, University of Nebraska, 1965; MS, Creighton University. 1964.

Blythe, Jack G., Professor of Geology (1967). BS, Kinsey State University. 1947; MS, 1951; PhD, 1957.


Born, John D., Associate Professor of

Clark, Mary Ann, Associate Professor of Dental Hygiene (1973). BS, University of Missouri at Kansas City, 1967.


Cochran, Diana L., Assistant Professor of Medical Technology (1987). BS, Emporia State University, 1979; MHS, The Wichita State University, 1989.

Cochran, John K., Assistant Professor of Sociology (1986). BA, University of Florida, 1980; MA, 1982; PhD, 1986.


Copp, Deltha Q., Assistant Instructor and Assistant Dean of Students—Special Programs (1980). BA, The Wichita State University, 1972.


Conrad, Mary Elaine, Assistant Professor of Medical Technology (1980). BS, Kansas Newman College, 1957; MS, Kansas State University, 1961.

Copeland, Ann, Assistant Professor of Medical Technology (1982). BS, University of Oklahoma, 1961; MS, University of Oklahoma Medical Center, 1967; PhD, University of California—Davis, 1972.


Cornett, Jeffrey W., Assistant Professor of Elementary Secondary Education (1987). BS, Bowling Green State University, 1984; MS, University of Toledo, 1979; PhD, Ohio State University, 1985.

Cornfield, Charles S., Assistant Professor and Clinical Coordinator of Respiratory Therapy (1978, 1983). BS, Indiana University of Pennsylvania, 1974; MS, Kansas State University, 1981.


Cranding, Jerry L., Associate Professor of Communicative Disorders and Sciences (1985). BS, The Wichita State University, 1964; PhD, 1968.

Cress, Allan M., Professor of German (1953). AB, University of Illinois, 1942; MA, 1948; PhD, 1952.


Crown, Gary D., Associate Professor of Mathematics and Statistics (1962). BA, The Wichita State University, 1960; MS, 1962; PhD, University of New Mexico, 1968.

Crowns, Arthur J., Jr., Professor of Administration (1957). BS, University of Wisconsin at Stevens Point, 1947; JD, University of Wisconsin, 1950; MSSW, 1958; PhD, Florida State University, 1965.


Cuthbertson, Jean, Associate Professor of Physical Therapy (1983). BA, Ohio Wesleyan University, 1946; MA, Stanford University, 1957.


Dagil, Cihan, Visiting Associate Professor of Industrial Engineering (1965). BS, Middle East Technological University, 1971; MS, 1973; PhD, University of Birmingham, UK, 1979.


Davis, Gayle R., Assistant Professor of Women's Studies (1982). BA, Muskingum College, 1968; MA, Michigan State University, 1975; PhD, 1981.

Davison, Ronald G., Associate Professor of Educational Psychology and Associate Dean of College of Education (1969). BA, State University of New York at Buffalo, 1959; EdD, 1964.

Decker, Kermit, Professor of Music and Director of Orchestras (1971). BME, The Wichita State University, 1956; MS in Music Ed, University of Illinois, 1962; DMA, University of Missouri at Kansas City, 1980.


Dey, Glen R., Professor of Counseling and School Psychology and Chairperson of Department of Personnel Services (1967) BS in Ed, University of Nebraska, 1954; MEd, 1959; EdD, 1961; CPA and Oklahoma Bar, 1964.

Dicker, Marc Todd, Assistant Professor of Physician's Assistant and Clinical Sciences Coordinator (1975). BA, University of Missouri, 1970; MA, The Wichita State University, 1976.

Distler, Donald A., Associate Professor of Biological Sciences (1963). BA, University of Louisville, 1952; MS, 1956; PhD, The University of Kansas, 1966.

Dooren, Stephen E., Assistant Professor of Administration of Justice (1977). BA, Otawa University, 1972; MS, University of New Mexico, 1974; PhD, Louisiana State University, 1979.

Donath, Jackie R., Assistant Professor of American Studies (1987). BA, Austin College, 1974; MA, University of Minnesota, 1985; PhD, Bowling Green State University, 1988.


Douglass, Karen L., Assistant Professor of Industrial Technology (1987). BS, University of Nebraska, 1980. BSEE, University of Missouri at Kansas City, 1986.

Douglass, William R., Assistant Professor of Industrial Technology (1987). BS, University of Nebraska, 1980. BSEE, University of Missouri at Kansas City, 1986.

Dowling, Dennis C., Associate Professor of Economics. Associate Dean of College of Business Administration and Director of the Center of Business and Economic Research (1967). BS, Kansas State University, 1961; MS, 1964; PhD, University of Colorado, 1967.

Duerr, Orpha K., Associate Professor of Educational Psychology (1967). BS, Kansas State University, 1954; MS, University of Illinois, 1970; PhD, University of Kansas, 1971.

Dunning, Wayne W., Assistant Professor of Administration of Justice (1961). BS, Iowa State University, 1952; MS, 1959; PhD, 1964.


Ehrling, Mary P., Associate Professor of Computer Science (1981). AB, Marymount College, 1957. MA, St. Louis University, 1959; PhD, 1961; MS, Ohio State University, 1974.


Eells, Laura, Assistant Professor of Sociology (1985). BS, University of Nebraska, Lincoln, 1977; MA, 1981; PhD, 1985.

Epp, Reinhart L., Assistant Professor of Electrical Engineering (1980). BSEE, University of Missouri at Rolla, 1972; MSEE, 1973; PhD, 1976; Licensed Professional Engineer, Missouri.

Eichler, Victor B., Associate Professor of Biological Sciences (1971). BS, University of Illinois, 1963; MS, 1964; PhD, University of Iowa, 1966.

Elcrat, Alan R., Professor of Mathematics and Statistics (1967). BS, University of New Mexico, 1963; MA, Indiana University, 1965; PhD, 1967.


Ewells, Randolph, Associate Professor of Educational Psychology (1974). BS, State University College of New York at Plattsburgh, 1975; MS, George Peabody College, 1967; PhD, 1970.

Erickson, James, Associate Professor of English (1964). BA, University of Minnesota, 1955; MA, 1957; PhD, 1967.

Ernst, Bonnie, Instructor of Mathematics


Eyski, Osama K., Assistant Professor of Industrial Engineering (1986). BS, Ain Shams University, Egypt, 1974; MEng, Liverpool University, England, 1980; PhD, Lehigh University, 1985.

Fagin, James, Assistant Professor of Administration of Justice (1974). BA, University of Nevada, 1971; MS, Southern Illinois University, 1972; PhD, 1977.

Fairless, Wesley L., Associate Professor of Communicative Disorders and Sciences (1965). BA, The Wichita State University, 1956; MA, 1962; PhD, 1969.

Fairless, Zhao, M. Assistant Professor of Computer Science (1984). BS, Fudan University, 1970; MS, University of Nebraska, 1982; PhD, 1986.

Farnsworth, David N., Professor of Political Science and Associate Vice President for Academic Affairs (1965). BA, The Wichita State University, 1953; AM, University of Illinois, 1955; PhD, 1969.

Fatehi-Sedeh, Kamal, Associate Professor of Management (1983). BA, College of Business Science, 1966; BS, Bowling Green State University, 1971; MBA, Western Illinois University, 1972; PhD, Louisiana State University, 1976.


Fernandez, Jeffrey E., Assistant Professor of Industrial Engineering (1986). BEng, NED University of Engineering and Technology, Karachi, Pakistan, 1982; MSIE, Texas Tech University, 1983; PhD, 1986.

Fike, James, Assistant Professor of Physical Education (1959). BS, Texas Woman's University, 1958; ME, The Wichita State University, 1960.

Flaherty, J. G., Regents' Professor of Urban Affairs and Professor of Economics (1970). BA, University of Iowa, 1948; MA, University of North Carolina, 1950; PhD, University of Wisconsin, 1964.


Flentje, J. Edward, Professor of Urban Affairs and Associate Director of Urban Studies (1976). BA, University of Nebraska, 1964; MA, George Washington University, 1965; PhD, The University of Kansas, 1970.

Foran, Michael F., Professor of Accounting (1983). BS, University of Arizona, 1967; MAS, University of Illinois, 1966; PhD, University of Washington, 1972; CMA; CPA—Oklahoma, Texas.

Fort, Nancy Matson, Assistant Professor of Accounting (1979). BS, University of California at Los Angeles, 1965; MS, The Wichita State University, 1967; PhD, Oklahoma State University, 1985; CPA—Kansas.

Foster, Avni, Assistant Professor and Chairperson of Department of Physics (1966). BA, Reed College, 1957; PhD, University of Kansas, 1968.


Foster, Mary Sue, Associate Professor of Art Education (1985). BS, The University of Missouri-Columbia, 1951; MSe, 1963; MFA, 1971.

Fox, Thomas A., Assistant Professor of Music Education (1979). BME, The Wichita State University, 1977; PhD, Ohio State University, 1981.

Fox, L. Raymond, Professor of Biological Sciences (1979). BA, University of California, Santa Barbara, 1963; PhD, 1967.


Freumont, Theodore S., Associate Professor of Educational Psychology (1970). BA, Nebraska Wesleyan University, 1965; MS, Fort Hays State University, 1966; EdD, Oklahoma State University, 1970.


Frentz, Suzanne, Assistant Professor of Speech Communications (1986). BA, The Winnipeg School of Business, 1980; MEd, 1983.


Frisbie, Charles E., Assistant Professor of Geology (1982). BS, University of Notre Dame, 1963; MS, University of Illinois-Chicago Circle, 1980; PhD, University of South Carolina, 1984.


Garber, Stockton T., Assistant Professor of Art History (1973). BA, Harvard University, 1964; MA, Indiana University, 1972; PhD, 1980.

Gass, Marcelle B., Assistant Professor of Business Education (1969). BA, Engineering University of Kansas, 1949; MS, The Wichita State University, 1967; PhD, Kansas State University, 1975.


German, Malcolm P., Assistant Professor and Biomedical Librarian (1986). AA, Highland Community Junior College, 1965; BS, Washburn University, 1967; MA, University of Kansas, 1972; MS, Emporia State University, 1974.

Gibson, George, Professor of Opera Theater and Voice (1967, 1980). BM, University of Miami, 1956; MS, University of Texas, 1955; DMA, University of Southern California, 1957.


Glaser, Mark A., Assistant Professor of Computer Science (1981). BA, The Wichita State University, 1970; MUA, 1974; PhD, University of Texas, 1974.


Gonzalez, Genaro E., Assistant Professor of Philosophy (1966). BA, Pontifical University of Salamanca, 1963; MA, Texas Tech University, 1967.

Gosman, Albert L., Professor of Mechanical Engineering (1959). BSEM, University of Michigan, 1956; MS, University of Colorado, 1955; PhD, University of Iowa, 1956.


Graham, Archie Richard, Professor of Mechanical Engineering and Director of Center for Productivity Enhancement (1986). BS, Kansas State University, 1957; MS, 1960; PhD, University of Iowa, 1966.


Gran, Jan, Professor and Chairperson of Department of Communicative Disorders and Sciences (1966). BS, Wayne State University, 1948; MA, 1951; PhD, Northwestern University, 1957.


Gregg, Alvin L., Assistant Professor of Chemistry (1968). BA, Texas Tech University, 1956; MA, 1957; PhD, University of Texas, 1969.

Grewall, Mahesh S., Professor of Mechanical Engineering (1969). BSc, University of Allahabad, India, 1953; BS, University of California at Berkeley, 1957; MA, 1959; PhD, 1962.


Gries, John C., Associate Professor and Chairperson of Geology (1971). BS, University of Wyoming, 1962; MS, 1965; PhD, University of Texas at Austin, 1969.

Griffith, Kathryn H., Professor of Political Science (1964). BA, The Wichita State University, 1947; MPA, Syracuse University, 1955; PhD, University of Chicago, 1967.


Gundersen, James N., Professor of Geology (1970). BS, University of Wisconsin,
1949; MA, University of California at Los Angeles, 1955; PhD, University of Minnesota, 1958.

Gythiel, Anthony P., Associate Professor of English (1971). Diplome d’Humanites, St. Stainerens, Brussels, Belgium, 1950; Bm, Maison de Philosophe, Brussels, Belgium, 1953; MA in Theology, Maison de Theologie, Universite de Louvain, Belgium, 1957; MA, University of Cincinnati, 1965; PhD, University of Louvain, Belgium, 1973.


Halstead, Helen L., Assistant Professor of Education (1965). BEd, University of Saskatchewan, 1948; MEd, University of Alberta, 1958; PhD, University of Alberta, 1965.


Hansen, Lee D., Assistant Professor of Management (1986). BA, California State University-Fresno, 1980; MBA, Southern Methodist University, 1981.

Hardy, James Lynn, Professor of Music Education (1966). BS in Ed, Southwest Missouri State University, 1948; MME, The University of Kansas, 1956; EdD, 1969.


Harmon, William W., Assistant Professor of Health Administration and Gerontology and Director of Barney House (1963). BS, Johnson C. Smith University, 1963; MA, Seton Hall University, 1974; PhD, Kansas State University, 1984.


Harris, James A., Assistant Professor of Mechanical Engineering (1984). BS, Cornell University, 1972; MS, Colorado State University, 1979; PhD, 1984. Licensed Professional Engineer—Colorado.

Hartman, John J., Professor and Chairperson of Sociology (1968). BS, Southwest Missouri State University, 1961; MA, University of Missouri, 1963; PhD, 1969.


Hartsook, Robert F., Assistant Professor of Business Law and Vice President for Development. Alumni and University Relations (1985). BS, Ball State University, 1970; J.D., Washburn University, 1979.


Hay, Bryan S., Associate Professor of Economics (1965). BS, University of Rochester, 1958; PhD, 1963.


Hays, William C., Associate Professor of Gerontology/Sociology and Director, University Gerontology Center (1973). BS, Ball State University, 1966; MA, 1968; PhD, University of Missouri, 1973.


Headley, Esther L., Instructor of Marketing and Associate Director of MBA Program (1980). BBA, The Wichita State University, 1979; MBA, 1980.


Henderson, Robert A., Assistant Professor of Electrical Engineering (1981). BS, University of Kansas, 1979; MSE, 1974; PhD, 1976.

Henderson, Carole Singleton, Assistant Professor of Health Administration and Gerontology (1986). AB, University of Alabama, 1965; MA, 1967; PhD, University of Wisconsin-Madison, 1973; OMUSW, University of Iowa, 1983.

Hersch, Philip, Assistant Professor of Economics (1983). BA, Queens College, 1974; MA, Ohio State University, 1978; PhD, 1982.

Hershey, Myrliss A., Associate Professor of Educational Psychology (1979). BA, Tabor College, 1951; MS, Emporia State University, 1969; PhD, Kansas State University, 1976.


Hoj, James C., Professor of Physics and Chemistry (1971). BS, National Taiwan University, 1954; MS, University of California at Berkeley, 1963; PhD, 1965.

Hoag, Gerald B., Associate Professor of English (1967) AB, Loyola University, New Orleans, 1951; MA, Tulane University, 1955; PhD, 1963.


Hogan, Linda, Assistant Professor of Medical Technology (1972). BA, Emporia State University, 1965; MT (ASCP), 1965; BB (ASCP), 1972; MEd, The Wichita State University, 1978.


Holmes, Louis D, Professor of Anthropology (1959). BS, Northwestern University, 1957; PhD, 1967.


Hommertzheim, Donald L., Associate Professor and Graduate Coordinator of Industrial Engineering (1976). BA, Friends University, 1969; MS, The Wichita State University, 1970; PhD, 1975.

Hooper, Steven J., Assistant Professor of Aeronautical Engineering (1987) BS, Iowa State University, 1981; MS, The Wichita State University, 1976; PhD, Iowa State University, 1983.

Horn, Walter, Associate Professor of Aeronautical Engineering (1973). BS, University of Alabama, 1967; MS, 1972; PhD, 1979. Licensed Professional Engineer—Texas.

Horn, Molly, Associate Professor of Nursing (1985). BS, The University of Kansas, 1964; MSN, University of Missouri, 1975.


Huckstedt, Alicia A., Associate Professor of Nursing (1973). BSN, The Wichita State University, 1973; MS, 1978; PhD, Kansas State University, 1984.


Hung, Hsien-Ming J., Assistant Professor of Mathematics and Statistics (1986). BS, National Tsing Hua University, Taiwan, 1974; MA, University of South Carolina at Columbia, 1979; PhD, Iowa State University of Science and Technology, 1983.


Huntley, Debra K., Assistant Professor of Psychology (1957). BA, University of Minnesota, 1951; MA, University of Houston, 1955; PhD, University of Houston, 1957.

Huntley, Diane E., Associate Professor of Dental Hygiene (1976). BA, University of
Bridgeport, 1968; MA, State University of New York at Albany, 1971; PhD, Kansas State University, 1965.


Kennedy, Robert F., Associate Professor of English (1973). BSE, University of North Dakota, 1966; MFA, University of Iowa, 1971; PhD, Duke University, 1974; DH, Indiana University, 1980.

Kelley, James W., Associate Professor and Associate Dean of University College (1980). BS, Duquesne University, 1954; MA, University of Denver, 1966; PhD, 1970.

Kelly, Francis L., Assistant Professor of Speech Communication (1963). BA, DePaul University, 1965; MA, University of Illinois, 1959; PhD, Ohio State University, 1972.


Kemme, David M., Associate Professor of Economics (1964). BA, Miami University, Oxford, Ohio; MA, The University of Chicago; PhD, 1964; PhD, 1974; PhD, 1980.

Khalil, Inman Osman, Visiting Assistant Professor of German (1987). MA, University of Texas, 1972; PhD, 1976.

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Kirby, S. Keith, Assistant Professor of Industrial Technology and Director for Cooperative Education (1977). BS, Pittsburgh State University, 1949; MS, University of Missouri, 1950.


Kleinbeck, Susan, Assistant Professor of Nursing (1986). BSN, University of Wisconsin-Madison; MA, University of Wisconsin-Milwaukee, 1983; PhD, University of Iowa, 1988.

Klingsporn, Melvyn J., Assistant Professor of Psychology (1965). AB, University of Nebraska, 1957; MA, 1962; PhD, 1965.

Klunder, Willard C., Assistant Professor of History (1986). AB, Saint Olaf College, 1969; AM, University of Illinois, Urbana-Champaign, 1972; PhD, 1981.

Knight, Robert K., Associate Professor of Psychology (1961). BA, Kent State University, 1954; MA, 1956; PhD, Michigan State University, 1960.

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Knight, Carla R., Assistant Professor of Military Science (1986). BA, California State University, Los Angeles, 1974.

Konek, Carol W., Assistant Professor of Women's Studies (1966). AB, Fairmont College of Liberal Arts and Sciences (1969). BS, University of Kansas, 1961; MA, The Wichita State University, 1966; PhD, University of Wisconsin, 1977.


Kraft, Frederic B., Associate Professor of Marketing and Chairperson of Marketing and Small Business (1972). BA, Wabash College, 1966; MA, University of Nebraska, 1966; DBA, Indiana University, 1972.


Mitchell, Linda C., Associate Professor and Director of School of Accounting (1977). BS, East Central University, 1968; MBA, University of Arkansas, 1969; PhD, 1975; CMA.


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Murdock, Katherine, Assistant Professor of Musicology—Composition (1985). BA, Humboldt State University, 1971; BA, 1971; MA, San Francisco State University, 1983; PhD, Eastman School of Music, University of Rochester, 1986.

Murphy, Dwight D., Associate Professor of Business Law (1967). ESL, University of Denver, 1957; JD, 1959.

Murphy, James M., Professor of Finance (1968). BS, Indiana University, 1943; MBA, 1945; PhD, 1959.


Myers, Walter J., Professor of Trumpet and Associate Dean of Fine Arts (1963). BS, Ohio State University, 1959; MME, University of Colorado, 1961; MM, Performance, 1966; DMA, University of Missouri at Kansas City, 1970.

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Naji, Mohammad R., Assistant Professor of Mechanical Engineering (1983). BSME, University of Houston, 1976; MSME, 1978; PhD, 1984.


Nance, Darlene A., Associate Professor and Director of Counseling Service (1966). BA, University of Redlands, 1964; MA, University of Iowa, 1967; PhD, 1968.

Needles, Audrey, Associate Professor of Theater (1979). AB, University of Denver, 1947; MA, 1948.


Neufeld, Robert, Assistant Professor of Computer Science (1983). BA, Bethel College, 1961; MA, The Wichita State University, 1965; PhD, Iowa State University, 1972; MS, The Wichita State University, 1983.

Nelson, Allan E., Assistant Professor of Nursing (1954). BS, The Wichita State University, 1973; MSN, University of Texas—Austin, 1977; PhD, 1980.


Norris, Roy H., Professor and Chairperson of Department of Electrical Engineering (1959). BS, The Wichita State University, 1959; MS, 1962; PhD, Oklahoma State University, 1972.


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Pier, Judith, Associate Professor of Speech Communication and Director of the Basic Oral Communication Program (1984). BA, Texas Christian University, 1961; MS, Western Michigan University, 1977; PhD, University of Denver, 1980.


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Platt, George C., Associate Professor of Urban and Regional Planning (1989). BS, South Dakota State University, 1983; MA, Syracuse University, 1985; PhD, 1982.


Poland, Leo A., Associate Professor of Accounting (1986). BS, The University of Kansas, 1947; MBA, Harvard University, 1948; DBA, Indiana University, 1962.

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Pranter, Charles A., Assistant Professor of Managerial Economics (1988). BA, Texas Christian University, 1969; MA, 1975; PhD, Oklahoma State University, 1979.


Reed, Paul E., Associate Professor of Piano (1966). BM, Drake University, 1956; MM, 1957.

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Richardson, William H., Associate Professor of Mathematics and Statistics (1962). AB, California State University, Chico, 1969; MS, Iowa State University, 1961.

Richardson, William Harrison, Associate Professor of History (1976). BA, University of California, Santa Barbara, 1968; MA, University of California, Berkeley, 1970; PhD, 1976.


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Robbins, Gregory Allen, Assistant Professor of Religion (1981). AB, Indiana University, 1974; MA, Drake University, 1977; PhD, Duke University, 1986.

Roberts, Diane, Associate Professor of Health Science and Dean of the College of Health Professions (1984). BS, Mississippi State University, 1963; MS, 1964; DPH, University of Texas School of Public Health, 1970.

Rodgers, Edward J., Professor of Aeronautical Engineering (1970). BSEE, University of Kansas, 1959; MS, 1965; PhD, Pennsylvania State University, 1963; Licensed Professional Engineer—Alabama.


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Rogers, Ethel Elizabeth, Assistant Professor of Mathematics and Statistics (1965). BS, Kansas State University, 1946; MA, Northwestern University, 1950; ML, Emporia State University, 1973.


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Rothman, Hal Karl, Assistant Professor of History (1967). BA, University of Illinois at Urbana-Champaign, 1960; MA, University of Texas at Austin, 1962; PhD, 1965.

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Sax, Philip, Assistant Professor of German (1971). BA, Northern State College of Louisiana, 1963; MA, The Johns Hopkins University, 1965; PhD, Washington University, 1970.

Schneider, Philip H., Associate Professor of English and Director of Creative Writing (1961). BA, State University of New York College at Oneonta, 1965; MFA, University of Iowa, 1967.


Schrag, Robert L., Professor of Electrical Engineering (1957). BSEE, Kansas State University, 1945; MSEE, California Institute of Technology, 1946; PhD, Pennsylvania State University, 1964.


Shane, John H., Instructor and Associate Visiting Faculty for Student Affairs (1967). BA, University of Wisconsin, Oshkosh, 1969; Master of Counseling, Arizona State University, 1972; PhD, 1974.

Scott, Joyce A., Associate Professor of French, Executive Vice President of Academic Affairs and Dean of Faculties (1966). BA, University of Connecticut, 1964; MA, University of Virginia, 1966; PhD, Duke University, 1972.


Shapiro, Dianne, Assistant Professor of Accounting and Dean of Women's Business (1969). BA, University of Oklahoma, 1961; MBA, 1963; PhD, University of Missouri, 1969; CPA—Oklahoma.

Shriver, Robert, Associate Professor of Minority Studies (1973). BS, Kansas State University, 1974.

College, 1965; MA in Nursing, University of Iowa, 1969; MS in Education, The University of Kansas, 1970.


Sobin, Anthony G., Associate Professor of English (1970). BA, Tulane University, 1966; MFA, University of Iowa, 1969; PhD, University of Utah, 1975.


Sowards, J. Kelley, Distinguished Trustee of Professors of Humanities (1956). BA, The Wichita State University, 1947; MA, University of Michigan, 1948; PhD, 1952.


Stailey, Christopher P., Associate Professor of Business (Studio Arts) (1969). BFA, Wittenberg University, 1977; MFA, Alfred University, 1980.

Stanga, John E., Jr., Associate Professor and Chairperson of Political Science (1968). BA, Southeastern Louisiana University, 1961; MA, Louisiana State University, 1963; PhD, University of Wisconsin, 1971.

Steele, Richard R., Instructor and Assistant Director of the School of Accountancy (1968). BS, Fort Hays State University, 1977; MBA, 1979; CPA—Kansas.

Stephens, Frances A., Associate Professor of English (1970). BA, Texas A&M University, 1956; MA, University of Texas, 1967; PhD, 1970.


Stevens, Mary Martha, Assistant Professor and Chairperson of Dental Hygiene (1972, 1977). BS, University of Missouri at Kansas City, 1967; MS, Kansas State University, 1975; PhD, Kansas State University, 1985.

Stevenson, William T.K., Associate Professor of Chemistry (1967). BS, University of Glasgow, 1960; PhD, University of London, 1965.


Suderman, Frederick, Assistant Professor of Political Science and Executive Assistant to the President (1974). BA, The University of Kansas, 1958; MEd, The Wichita State University, 1970; MN, 1983.


Sutterlin, Peter G., Professor of Geology (1969). BS, University of California, Berkeley, 1953; PhD, Northwestern University, 1958.


Sweney, Arthur B., Professor of Management (1966). BS, University of Illinois, 1947; MSW, 1949; PhD, University of Houston, 1958.

Taggart, Thoburn, Jr., Assistant Professor and Interlibrary Loan Librarian (1963). BA, University of Kansas, 1963; MA, George Peabody College for Teachers, 1958.

Taher, Syed M. A., Associate Professor of Physics (1976). BS, Dacca University, 1964; MS, 1966; PhD, University of Long Beach, 1970; PhD, Washington State University, 1974.

Talaty, Erach R., Professor of Chemistry (1969). BSC in Science, Nagpur, India, 1948; PhD, 1954; PhD, Ohio State University, 1957.


Tejeda, Antoinette M., Assistant Professor of Spanish (1967). AB, Bradley University, 1964; MA, Texas Tech University, 1965.

Terflinger, Curtis D., Professor of Business Law and Director, Legal Assistant Program (1967). BA, The University of Kansas, 1953; JD, 1957.

Terrell, William T., Associate Professor of Economics and Interim Director of the Honors Program (1967). BS, Oklahoma State University, 1958; MS, 1961; PhD, Vanderbilt University, 1968.

Theerathorn, Pochara, Assistant Professor of Finance (1983). BSc, Imperial College of Science and Technology-London, 1969; MBA, Thammasat University-Thaiiland, 1977; PhD, Northwestern University, 1983.

Thomas, James H., Associate Professor and Chairperson of American Studies (1976). BA, The University of Kansas, 1971; Med, 1975; PhD, Oklahoma State University, 1976.

Thomas, Phillip D., Professor of History and Dean of Farnmouth, College of Liberal Arts and Sciences (1965, 1968). BA, Baylor University, 1960; MA, University of New Mexico, 1964; PhD, 1965.


Throckmorton, Helen J., Professor and Chairperson of English (1954). AB, Friends...
BSEE, Ohio State University, 1946; MSE, The Wichita State University, 1961.

Walschacher, Richard C., Professor of Theater and Chairperson of School of Performance and Fine Arts (1967). BA, University of Denver, 1948; MA, University of Denver, 1950; PhD, Ohio State University, 1964.

Wentworth, C. Russell, Associate Professor of Educational Administration and Supervision and Special Assistant to the Executive Vice President (1971). BA, Michigan State University, 1949; MA, 1952; PhD, 1970.

Wentz, William H., Jr., Distinguished Professor of Aeronautical Engineering and Executive Director, Institute for Aviation Research (1957, 1963). BS, The Wichita State University, 1955; MS, 1961; PhD. The University of Kansas, 1969; Licensed Professional Engineer—Kansas.

Wenzel, Loren A., Assistant Professor of Business Administration (1968). BS, Mankato State University, 1978; MBA, 1980.


Wherrett, Robert C., Associate Professor of Mathematics and Statistics (1962). BS, Tu­mane University, 1961; MS, 1964; PhD, New Mexico State University, 1971.

Whitemore, Abel C., Assistant Professor of Health, Administration and Gerontology (1958). BA, Loyola University, 1978; MA; MBA, 1982; DBA, United States International University, 1986.


Wieber, Raymond F., Assistant Professor and Academic Counselor in University College (1965). AB, Tabor College, 1953, MS, Kansas State University, 1965.

Wilhelm, William, Professor of Engineering Education and Dean of the College of Engineering (1979). BME, Autumn University, 1953; BS, 1955; MS, 1963; PhD, 1966; Licentiate in Engineering, Kardiz, West Virginia.


Williams, Brian W., Assistant Professor and Chairperson of Graduate Program in Education (1983). BA, Ball State University, 1975; MBA, 1981; MLS, Indiana University, 1982.

Williamson, L. Keith, Assistant Professor and Chairperson of Research Communication (1977). BA, The Wichita State University, 1965; MTh, Southern Methodist University, 1968; PhD, Temple University, 1975.

Wilson, John H., Jr., Distinguished Professor of Spanish (1967). BA, The Wichita State University, 1948; MA, University of Wisconsin, 1949; PhD, 1960.

Zbinden, Michael, Associate Professor of Computer Science (1986). MS, Techni-
cal University of Warsaw, Poland, 1974; PhD, Polish Academy of Sciences, Warsaw, Poland, 1977.


Wolfe, Donna J. Hawley, Associate Professor of Nursing and Director of Graduate Nursing Education (1984). BS, University of Iowa, 1968; MA, University of Missouri at Kansas City, 1971; MN, The University of Kansas, 1980; EdD, 1980.

Wood, Michael A., Assistant Professor and Associate Director for Media Production (1985). BS, Kansas State University, 1969; MS, 1973; MFA, University of Southern California, 1979.


Yang, Hwa-Ming, Visiting Assistant Professor of Mathematics and Statistics (1986). BS, Fu-Jen Catholic University, Taiwan, 1962; MS, National Taiwan University, 1974; PhD, Purdue University, 1980.


Yentsch, Catherine G., Assistant Professor of Secondary Education (1979). BS, Michigan State University, 1963; MS, Purdue University, 1973; PhD, 1978.


Young, Lee, Instructor and Interim Associate Director of Admissions (1985). BS, Jackson State University, 1975; MS, 1975.

Youngman, Arthur L., Assistant Professor of Biological Sciences (1965). BA, Montana State University, 1959; MA, University of Texas, 1965.

Zahn, Carluz, Assistant Professor of Health, Administration and Gerontology (1986). BS, Engineering University, Lahore, Pakistan, 1975; MBA, The Wichita State University, 1986.

Zandler, Melvin E., Associate Professor of Chemistry (1966). BA, Friends University, 1960; MS, The Wichita State University, 1963; PhD, Arizona State University, 1968.


Zoller, Peter T., Associate Professor of English (1981). BS, University of San Francisco, 1965; MA, Claremont Graduate School, 1966; PhD, 1970.

Zumwalt, Glen W., Distinguished Professor of Aerospace Engineering (1969). BS, University of Texas, 1948; BSME, 1949; MSME, 1953; PhD, University of Illinois, 1959; Licensed Professional Engineer—Kansas City.


Retired Faculty

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Areaga, Lucio
Berg, J. Robert
Bernard, David
Bontrager, Ralph L.

Burgess, L. Phyllis
Carson, Doris M.

Ceaer, James J.
Christian, Robert V., Jr.

Collins, George
Comstock, George A.
Corbin, Harry F.

Crockett, Helen

Cross, Laura M.
Doig, J. Robert, Jr.

Draile, Lewis A.

Duerksen, George N.
Ellis, Howard E.

Ford, William R.
Froning, Dorothy Gardner
Fugate, Josephine B.

Gane, Elizabeth
Gates, Therese

Gerling, Amy G.
Gleason, Kenneth G.

Gossert, Lucille
Gray, James

Haines, Forrest D.
Hammond, Collin
Harsberger, John L.

Hecht, Sabrina
Heilmann, Charles E.

Herman, David T.
Hinton, Evelyn A.

Holmer, Robert M.
Hornburner, Richard H.

Houston, Martha P.
Jackson, Bill

Jakovatz, Charles V.
Janssen, Ines

Jovanovic, Mark K.
Kenyon, Grant Y.

Kiskadden, Robert M.
Knight, Dorothy M.

Knight, Kenneth C.

Lindquist, Emory
Linscheid, Harold W.
Lucas, Walter A.
Makovec, Mark M.

Mickel, Howard A.

Miller, Glenn
Millar, Marguerite

Millott, Joan
Mohn, Phillip J.

Mood, Robert Gibbs
Mulnik, Margaret D.

Nelson, Eunice D.

Newman, Arthur N.
O'Hara, Donald P.

Paddock, Beatrice
Parker, Albert R.

Parris, Wayne L.
Pease, Beatrice Sanford
Pettersen, Kenneth C.

Pronko, N. H.
Reif, Martin A.

Rydjord, John
Sanchez, Bienvenido N.
Savaiano, Eugene

Sherman, Dorothy M.
Simoni, John P.
Small, Blanch L.

Smith, R. V.

Spangler, Eugene C.

Strange, John M.

Taggart, Gladys Martha

Tasch, Paul
Teall, Mary Jane Woodard

Terwilliger, Gordon B.

Tuttle, Edward H.

Vahdat, Pari

Van Keuren, Katharine

Walker, Margaret L.

Wall, Lillian A.

Wallington, Frances A.

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Wilkes, Mary Nell

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Wrestler, Ferna E.

Wuertz, Clara L.

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Adjunct Faculty—Fall, 1987

Abshire, Patsy—Dental Hygiene
Agulera, David—Clinical Sciences
Ahrens, Jackie Lunsford—Clinical Sciences
Alexander, Holly—Clinical Sciences
Alison, Renae J.—Physical Therapy
Allison, Carol A.—Physical Therapy

Altenhein, Marilyn—Physical Therapy

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Anderson, Linda—Dental Hygiene

Argo, Linda Kay—Clinical Sciences

Armstrong, Janet—Clinical Sciences

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Arterburn, Joan S.—Physical Therapy

Aumick, Patti—Physical Therapy

Avey, Kathryn—Physical Therapy

Baldwin, Debra S.—Physical Therapy

Barb, Dale—Physical Therapy

Barden, Bobbi K.—Clinical Sciences

Barnes, William J.—Physical Therapy

Barnett, Edward M.—Finance, Real Estate and Decision Sciences

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Bartel, Cindy—Physical Therapy

Barto, Betty—Nursing

Barton, Nancy—Nursing

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Beadle, Kathy—Clinical Sciences

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Beckham, Merry—Clinical Sciences

Bell, Alice Thornton—Nursing

Bell, Tally—Nursing

Benson, Beverly—Nursing

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Blackwell, Mark J.—Physical Therapy

Blanchat, Kelli—Physical Therapy

Blanner, Patricia Ann—Physical Therapy

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Persons, Pamela K.—Physical Therapy
Peterson, Joleen C.—Physical Therapy
Peterson, Ragnhild —Physical Therapy
Peterson, Susan S.—Physical Therapy
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Pollard, Stephen—Illiac Sciences
Pomeroy, Jeanne—Physical Therapy
Postlethwaite, Dorothy—Clinical Sciences
Power, Rosemary—Physical Therapy
Powells, Sheila D.—Physical Therapy
Pujah, Molly—Nursing
Randall, George R.—Communicative Disorders
Rapp, Reva J.—Clinical Sciences
Rawlings, Jacqueline S.—Physical Therapy
Ray, Jan L.—Physical Therapy
Reals, William J.—Clinical Sciences
Redman, Evelyn—Clinical Sciences
Reed, D. Cramer—Health, Administration and Gerontology
Regehr, Jerry—Clinical Sciences
Renn, Kathy—Physical Therapy
Rennick, Linda—Nursing
Renon, W. James—Aeronautical Engineering
Resnick, Linda—Physical Therapy
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Satterfield, Louise—Physical Therapy
Schiedel, Joyce D.—Physical Therapy
Schockley, Isabel—Physical Therapy
Schoffner, Kathy—Nursing
Schreiber, Lynn D.—Nursing
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Seidt, Loretta J.—Dental Hygiene
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Shaw, James—Clinical Sciences
Shlabinger, Charlotte E.—Clinical Sciences
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Shoemaker, Margaret E.—Physical Therapy
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Snyder, Phyllis—Clinical Sciences
Spalding, Richard—Clinical Sciences
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Squire, Charles—Dental Hygiene
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Stewart, Donald M.—Health, Administration and Gerontology
Stewart, Gretchen M.—Clinical Sciences
Strathe, Julie—Physical Therapy
Street, Theodore—Clinical Sciences
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Sundgren, Ann C.—Physical Therapy
Swarford, Deborah—Physical Therapy
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Thomson, Jena P.—Clinical Sciences
Thompson-Baillie, Marlene—Nursing
Thompson-Ball, Kathleen E.—Clinical Sciences
Tiller, Gary—Clinical Sciences
Travers, Henry—Clinical Sciences
Trezvant, Keith A.—Clinical Sciences
Trowbridge, Jan—Clinical Sciences
Truver, Joyce—Physical Therapy
Twist, Kevin—Clinical Sciences
Umansky, Martin—Journalism
Unruh, Jeanne—Clinical Sciences
Urmy, Greg—Clinical Sciences
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Ashworth, Sherry L.—Intensive English Language Center
Barber, Mary Patricia—Intensive English Language Center
Bartz, James R.—School of Art and Design
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Beetley, Clifford J.—Journalism
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Fall, Mildred E.—Business Education
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Applied Music Instructors—Fall, 1987

David C. Brody
Deann Brown
Judith A. Fear
Nancy L. Hercher
Kristin A. Heslop
Janice L. Johnson
Dwight M. Kilian
Jung-Mi Lee
Elizabeth A. Lindal
Leslie L. Lynn
Kevin J. May
Sarah L. Mckinley
Paul H. Overley
J. Craig Owens
John M. Raye
Linda S. Starkey
Milord C. Umrau

Lecturers—Fall, 1987

Aaron-Leary, S. Leigh—Psychology
Alison, Dale C.—Religion

Traweek, Stephen B.—Finance, Real Estate and Decision Sciences
Henderson, Roy B.—Physician Assistant
Henson, Harlan N.—Instructional Services
Hillen, Jo A.—University College
Hoover, Dennis D.—Electrical Engineering
Howell, James G.—Instructional Services
Hunter, Ann P.—Student Health
Izbicki, Thomas M.—History
James, Chester M.—Industrial Technology
Johnson, Jane Renee—Speech Communication
Kasten, Conette L.—Instructional Services
Kater, Donna J.—Personnel Services
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Kenning, John E.—Computer Science
Khalil, Iman Osman—Credit Free Programs
Klein, Mary L.—English
Kormos, John—Physical Educati
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Lim, Cheng Huak—Mathematics and Statistics
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Linden, Barry W.—Psychology
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Maloney, James L.—Administration of Justice
Martin, Jerry P.—Anthropology
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McCune, Allen D.—Instructional Services
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McGuire, Willard L.—Physician Assistant
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Morrison, Robert C.—Industrial Engineering
Naccarato, David F.—Computer Science
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Key to Course Descriptions

Symbols
When two course numbers are joined by a hyphen (–), the first semester is prerequisite to the second; when the numbers have an ampersand (&) between them, the two semesters may be taken in either order. Unless specifically noted otherwise, the first course listed is offered in the fall semester and the second in the spring.

The number of hours of credit for each course is indicated in parentheses following the course title. The number of class meetings per week is normally the same as the number of credit hours. Two hours of laboratory work are usually required for one hour of credit. In courses involving meetings other than lectures, the following symbols are used: R, lecture; L, laboratory; C, conference; D, demonstration; and P, practicum, with the hours of practicum per week given in front of the letter (6P means six to eight hours of practicum per week).

Abbreviations
The following abbreviations of academic departments and areas are used in references to courses offered by those departments.

Acctg.--Accounting
AE--Aeronautical engineering
AJ--Administration of justice
AM--Applied music
Amer. Stud.--American studies
Anth. Anthropology
Art Ed.--Art education
Art Hist.--Art history
Av. Mgt.--Aviation management
Biol.--Biological sciences
B. Law--Business law
Bus. Ed.--Business education
CDS--Communicative disorders and sciences
Chem.--Chemistry
Comm. Communications
CS--Computer science
CSP--Counseling and school psychology
Dance--Dance
DH--Dental hygiene
DS--Decision sciences
EAS--Educational administration and supervision
Econ. Economics
EE--Electrical engineering
Eng. English language and literature
Engr. General engineering
ET--Engineering technology
Fin. Finance
Fr. French
GD--Graphic design
Geog.--Geography
Geol. Geology
Ger.--German
Geron.--Gerontology
HAE--Health administration and education
Hist. History
Hon. Honors Program
HS--Health sciences
IE--Industrial engineering
I. Tech. Industrial technology
In. Eng. Innovative English
IS--Instructional services
Ital.--Italian
Jour. Journalism
Legal Legal assistant
Ling.--Linguistics
LS--Library science
Math.--Mathematics
ME--Mechanical engineering
Mgmt. Management
Min. Stud.--Minor studies
Mkt.--Marketing
MOD--Modern and classical languages and literatures
MS--Military science
MT--Medical technology
Mus.-Comp. Musicology-composition
Mus. Ed.--Music education
Mus. Perf.--Music performance
Nurs.--Nursing
PA--Physician assistant
PE--Physical education, health and recreation
Pers.--Personnel (business)
Phil. Philosophy
Phys.--Physics
Pol. Sci.--Political science
Port. Portuguese
Psych.--Psychology
PS--Personnel service (education)
PT--Physical therapy
RE--Real estate
Rel.--Religion
RT--Respiratory therapy
Russ.--Russian
SA--Studio arts
Sm. Bus.--Small business/entrepreneurship
Span.--Spanish
Sph.--Speech communications
Soc. Sociology
Stat. Statistics
SW--Social work
Thea.--Theater
UA--University affairs
UC--University College
WS--Women's studies
### Degrees and Academic Majors by College at The Wichita State University

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*C = Certificate  B = Baccalaureate  S = Specialist  
A = Associate  M = Master  D = Doctorate*
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**College of Health Professions**

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**Fairmount College of Liberal Arts and Sciences**

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</table>

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*Master of Fine Arts, a terminal degree

**Kansas Board of Regents have approved this program for implementation beginning fall 1990.