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Undergraduate Catalog 1994-95

This catalog is a guide for information only and is not a contract. This catalog becomes effective Fall Semester 1994 and extends through the Summer Session 1995. The official University address is Wichita State University, 1845 Fairmount, Wichita, Kansas 67260. The general university telephone number is (316) 689-3456. For admission information, call toll-free 1-800-362-2594.

The University reserves the right to revise or change rules, charges, fees, schedules, courses, requirements for degrees, and any other regulations affecting students whenever considered necessary or desirable. The University reserves the right to cancel any course for insufficient registration and to phase out any program.
Academic Calendar for 1994-95

Fall Semester 1994

August 15-20 ..................................... Fall semester registration
August 22 ........................................ Classes begin
September 3-5 ................................... Labor Day, holiday
October 14 ........................................ Midterm point
October 28 ........................................ Final date for withdrawal
November 1 ....................................... Priority application due date
November 14-22 .............................. Early registration period for spring semester
November 23-27 ................................ Thanksgiving recess
December 8 ....................................... Last day of classes
December 9 ....................................... Study day
December 10-16 ............................... Final examinations
December 17 ..................................... Fall semester ends

Spring Semester 1995

January 10-15 ................................... Spring semester registration
January 16 ....................................... Martin Luther King, Jr. Day, holiday
January 17 ....................................... Classes begin
March 15 ......................................... Priority application due date
March 17 ......................................... Midterm point
March 20-26 ..................................... Spring recess
March 27 ......................................... Classes resume
March 31 ......................................... Final date for withdrawal
April 1 ............................................. Priority application due date
April 12-21 ..................................... Early registration period for fall semester
April 27 ........................................... Last day of classes
May 8 .............................................. Study day
May 9 .............................................. Final examinations
May 10-16 ....................................... Spring semester ends
May 17 ............................................ Commencement
May 20 ............................................

Summer Session 1995

May 23-June 2 ................................... Summer Session registration
May 29 ............................................ Presession and workshops
May 30-June 2 ................................... Memorial Day, holiday
June 5 ............................................. Classes begin, first four-week term
June 30 ........................................... Last day of first four-week term;
June 30 ........................................... registration for second four-week term
July 3 ............................................. Classes begin, second four-week term
July 4 ............................................. Independence Day, holiday
July 28 ........................................... Summer Session ends

NOTICE OF NONDISCRIMINATION
Applicants for admission and employment, students, parents, and employees are hereby notified that Wichita State University does not discriminate on the basis of race, color, national origin, sex, age or disability in admission or access to, or treatment or employment in, its programs and activities. Any person having inquiries concerning Wichita State University’s compliance with the regulations implementing Title VI, Title IX, or Section 504 is directed to James J. Rhatigan, Vice President for Student Affairs and Dean of Students, 1845 Fairmount, Wichita, Kansas 67260-0008, (316) 689-3021. Dr. Rhatigan has been designated by Wichita State to coordinate the institution’s efforts to comply with the regulations implementing Title VI, Title IX, and Section 504. Any person also may contact the Assistant Secretary for Civil Rights, U.S. Department of Education, regarding the institution’s compliance with these regulations.
General Information

1994-95 University and Academic Officers
Eugene M. Hughes, President
Bobby R. Patton, Vice President for Academic Affairs
Elizabeth King, Vice President for University Advancement
Roger D. Lowe, Vice President for Administration and Finance
James J. Rhatigan, Vice President for Student Affairs and Dean of Students
Michael Tilford, Dean of the Graduate School
Gerald H. Graham, Dean of the W. Frank Barton School of Business
James L. Carroll, Dean of the College of Education
William J. Wilhelm, Dean of the College of Engineering
Walter J. Myers, Dean of the College of Fine Arts
M. Diane Roberts, Dean of the College of Health Professions
Gerald D. Loper, Interim Dean of Fairmount College of Liberal Arts and Sciences
Jacqueline J. Snyder, Dean of Continuing Education
Jasper G. Schad, Dean of Libraries
James W. Kelley, Dean of University College and Associate Vice President for Student Affairs
Frederick Sudermann, Vice President of Governmental and Industrial Relations
Bill Belknap, Director of Intercollegiate Athletics

Board of Regents of the State of Kansas
Robert Caldwell, Salina
Catherine Conger, Iola
Tom Hammond, Wichita
John Hiebert, Lawrence
Karen Krepps, Lebanon
John G. Montgomery, Chairman, Junction City
Phyllis Nolan, Louisburg
Frank C. Sabatini, Topeka
Sidney Warner, Cimarron
Stephen M. Jordan, Executive Director, Topeka

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

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 13-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 bachelor's 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; chemistry; communication disorders and sciences; aerospace, electrical, industrial, and mechanical engineering; human factors and community/clinical psychology. A Doctor of Education is available in educational administration.

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 National 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.

Wichita State University Profile
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 some 15,000, Wichita State prides itself on specialized attention to each student. Although the University's students come from almost every state in the Union and 80 foreign countries, more than 87 percent are from Kansas representing every county in the state.

Because of its urban setting, Wichita State University has two student bodies—traditional and nontraditional. The average student age is 28, about one-third are married and 58 percent work part-time. Although nontraditional students are in the majority, there are 7,000 traditional students, ages 18 to 23, who devote themselves full-time to school and campus activities.

Wichita State University offers more than 60 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 42 master's degrees which offer study in more than 100 areas; one master's in education; and more than 60 master's in applied mathematics; chemistry; communication disorders and sciences; human factors psychology and community/clinical psychology; educational administration; and more than 60 master's in aerospace, electrical, industrial, and mechanical engineering. A complete listing of the programs and degrees offered at 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 two-week pre-session and two four-week sessions held concurrently with the regular eight-week session.

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 98-year heritage. More than 50 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.

The Science Classroom and Laboratory Building, completed in 1992, houses the departments of computer science, mathematics, physics, and psychology, as well as the Computing Center and its mainframe system.

Other recent construction projects include Devlin Hall, which houses the Center for Entrepreneurship; the National Institute for Aviation Research, which enhances the University's research association with the local aircraft industry; an expansion and renovation of Abiah Library, which includes the state-of-the-art Media Resources Center; the K.T. and Mary Inez Woodman Alumni Center, which is an office complex for the Endowment Association, Alumni Association, and Board of Trustees staff; the Gaddis Physical Plant complex; 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.

WSU is a Division I institution and fields teams in tennis, cross-country, basketball, track, golf, crew, soccer, and bowling, men’s baseball and women’s volleyball and softball.

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, Wichita State University is one of six state universities governed by the Kansas Board of Regents.


Policies
Human Relations
Notice of nondiscrimination. Applicants for admission and employment, students, parents, and employees are hereby notified that Wichita State University does not discriminate on the basis of race, color, national origin, sex, age, or physical disability in admission or access to, or treatment or employment in, its programs and activities. Any person having inquiries concerning Wichita State University's compliance with the regulations implementing Title VI, Title IX, Section 504, and ADA is directed to Grady Landrum, Director, Resource Center for Independence, 1845 Fairmount, Wichita, Kansas 67260-0132, (316) 689-3309. Grady Landrum has been designated by Wichita State to coordinate the institution's efforts to comply with the regulations implementing Title VI, Title IX, Section 504, and ADA. Any person also may contact the Assistant Secretary for Civil Rights, U.S. Department of Education, regarding the institution's compliance with these regulations.

The WSU Catalog is available in other formats. Inquiries should be addressed to the Resource Center for Independence.

Student Responsibility
Students at Wichita State University have the following responsibilities:
1. To consult their advisers on all matters pertaining to their academic career, 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 as 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 also should 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:

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 University standards must expect to face disciplinary action on the part of the institution, which may include reprimand, probation, or suspension, consistent with campus provisions for due process.

Academic Honesty
Opportunities for learning at 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 people. Serious cases may result in discipline at the college or university level and may result in suspension or dismissal. Dismissal from a college for academic dishonesty constitutes dismissal from the University. 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 also may receive the names of people from outside the University who request access to their records and the reason for such request. Similarly, students also may be informed of requests for records from individuals within the University who normally do not review student's 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, 103 Grace Wilkie Hall.

Accident or Injury
The State of Kansas and 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 also are 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 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 Wichita State University is independent of race, color, national origin, sex, age, or physical disability. Any person having inquiries concerning violations may contact James J. Rhatigan, Vice President for Student Affairs and Dean of Students, 1845 Fairmount, Wichita, Kansas 67208-1595, (316) 689-3021.

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 upon submission of an application, official high school transcript, nonrefundable $51 application fee and scores for the test battery of the American College Testing Program (ACT). Application may be completed in one of two ways:
1. Students may apply by taking the 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 and the application fee to their high school counselor, who should attach a six-semester high school transcript and return the forms to Wichita State. A notification of admission status will then be mailed to the students.

2. Students also may apply by submitting a standard university application of admission, a nonrefundable application fee 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 also will 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 also must be submitted before enrollment. Graduates of nonaccredited Kansas high schools must score at least 18 on the ACT or 700 on the SAT 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, application fee, 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) have a minimum ACT composite score of 21 or a minimum combined SAT of 810 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, application fee and official scores from the General Educational Development test. ACT scores also are required if the student is admitted. Admission is based on the GED scores. Students who have declared an academic interest will be admitted in preprogram status within the college of their choice. Students must meet all necessary requirements of the degree-granting college prior to admission to degree program status. The individual college admissions requirements are given at the beginning of each college's section in the Catalog.

Students who are still deciding on an academic major will be admitted to University College for academic advising and career counseling.

Transfers

Students who have been enrolled in another college or university may be admitted to undergraduate study at Wichita State University if they have a minimum overall collegiate grade point average of 2.000 on a 4.000 system, are eligible to return to the college or university they last attended, and are able to meet the required scholastic standards of a college at Wichita State. Specific standards are given in each college's section of the Catalog.

If possible, 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 assistance 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 or who have not completed the Basic Skills component of the General Education Program and (2) those with declared majors and 24 or more college semester hours of credit and who have completed the Basic Skills component of the General Education Program. The latter includes six hours of English composition, three hours of communication, and three hours of college-level mathematics.

Students must submit to Wichita State's Office of Admissions an application, application fee and an official transcript from their last high school and each college or university attended. International students should submit all materials to the Office of International Admissions.

1. Transfer students with fewer than 24 college semester hours of credit or an undeclared major or who have not completed the Basic Skills component of the General Education Program will be considered for admission to preprogram studies. Before enrollment, students must submit scores from the ACT.

2. Transfer students who have declared a major, have 24 or more college semester hours of credit and have completed the Basic Skills component of the General Education Program are eligible to apply for admission to one of the six undergraduate degree-granting colleges.

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 in 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 bachelor’s 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 university-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 general credit acceptance. More specifically, the transferability or transfer course equivalency is determined by the appropriate Wichita State department for each course from another institution. International students may obtain information on transfer credit from foreign colleges and universities from the Office of International Admissions, Intensive English Language Center.

As a minimum graduation requirement each student must complete each basic skills course in the Basic Skills component of the General Education program with a grade of C or better. This requirement applies to basic skills courses taken at Wichita State or transferred for credit from other institutions, including Kansas public community colleges and state universities.

Wichita State degree-bound students should speak with an advisor before enrolling in courses at another institution.

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 many benefits that arise from the interaction of U.S. and foreign students and scholars on our campus, Wichita State University demonstrates a commitment to international education.
Through its Office of International Admissions and its Office of International Programs, the availability of an intensive English program, special courses within departments, and community services such as host family programs for international students.

The University is committed to a policy of nondiscrimination and welcomes students of every national, racial, religious, ethnic, and cultural background. Admission decisions are based solely on the academic qualifications of applicants.

Students applying for a program leading to a bachelor's degree will be admitted according to the following guidelines:

1. They must be graduated from a recognized secondary school. If they have attended a university or college, they must have achieved an acceptable record.

International students are not required to take the ACT or SAT exams.

2. They must submit an international student application form and a nonrefundable $40 international student application processing fee.

3. They must present proof of proficiency in English. Undergraduate applicants who have not taken the Test of English as a Foreign Language (TOEFL) or whose score is below 530, must take an English proficiency test upon arrival on campus. Students who score 50 or higher (TOEFL equivalency of 530) on the proficiency test in their academic program.

Those who score between 75 and 80 (460 to 529 TOEFL equivalency) in a half-time academic program (two classes for up to eight credit hours) concurrent with half-time Intensive English enrollment. Students who score between 75 TOEFL equivalency of less than 500 are required to complete at least one semester of full-time study in the Intensive English Language Center before enrolling in any academic classes. After one semester of Intensive English, students may take the TOEFL, which is administered on campus nine times each year. Those who score less than 530 continue enrollment in Intensive English on a full-time or part-time basis as determined by the score ranges mentioned above.

4. They must submit a statement of financial responsibility in the amount of $13,000 to cover expenses for one academic year (9 months). The amount required for 12 months, including Summer Session enrollment, is $16,300.

Enrollment in the Summer Session is not required, but is available to students who wish to accelerate their progress toward a degree. Like all students from outside the state of Kansas, international students are considered nonresidents for tuition and fee purposes. See the Tuition section of this Catalog for additional details.

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 meet processing for the term requested will be admitted for the following term. All required records and forms must be received in the Office of International Admissions prior to admission. Students are expected to arrive and enroll at the University during registration week at the beginning of the term.

Admission decisions for students with non-U.S. educational records are based on the standard reference sources available to international admissions officers.

Students with transfer work from U.S. universities or colleges must have achieved a minimum grade point average of 2.0 on a scale of 4.0. Marks achieved in particular subjects also may be considered, depending on the student's intended major field of study.

The University cannot assume financial responsibility or guarantee monetary assistance for any student, including international students. Prospective and enrolled students must have sufficient financial support available to meet all the expenses of tuition, fees, books, room, and board, etc. The maintenance of adequate financial support is a condition for admission and continued enrollment.

No scholarships or grants are available to newly entering undergraduate international students. Graduate students may apply to the Graduate School for information on graduate fellowships and assistantships.

Under regulations of the U.S. Immigration and Naturalization Service, all international students are required to maintain full-time enrollment while in the U.S. Full-time enrollment is 12 credit hours per semester for undergraduates, nine credit hours per semester for graduate students, and 25 clock hours weekly for students in the Intensive English Language Center.

For further information or to obtain an application form, write:
Office of International Admissions
Wichita State University
Wichita, Kansas 67260-0122
USA
Telephone: (316) 689-3232
Fax: (316) 689-3777

Graduate Students
Several categories of admission to Wichita State University Graduate School are available. Students seeking a graduate degree must have at least a bachelor's 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 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.

For further information about graduate programs or to obtain graduate application materials, contact Graduate Admissions, 107 Jardine Hall, Wichita State University, Wichita, Kansas 67260-0004, (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 Wichita State University enrollment 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.

Exceptions Committee

The University has an Exceptions Committee to review petitions from people seeking admission to the University who otherwise do not qualify. The process of petitioning may begin with the Office of Undergraduate Admissions or with academic advisers in University College or any of the undergraduate degree granting colleges. The Committee also considers petitions from students seeking exceptions to specific academic rules and regulations. Students are advised to begin the petitioning process by consulting with academic advisers in their college of enrollment.

Nondegree-bound Students

Wichita State encourages students to pursue their educational goals. People 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, Wichita State University, Wichita, Kansas 67260-0004 (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 have graduated from an accredited high school, or have completed a GED, 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 bachelor’s or higher degree.

Students admitted under the open admission policy need only submit an application for admission and the application fee. 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 apply to continue as a regular non-degree student or as a degree bound student. Admission will be based on having completed 15 hours of WSU work at 2.00 GPA or greater.

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 and application fee to the Office of Admissions. Students applying for guest admission in the fall or spring semester also must submit an official transcript showing a 2.00 grade point average from their home institution. Guest admission is granted for a total of 15 hours. 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. High school guest admission must be renewed each semester.

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 in the International Students section, including the TOEFL requirement.

Midwest Student Exchange Program

Students from Michigan, Minnesota, Missouri and Nebraska who have elected to study in an approved program are eligible for reduced nonresident tuition rates. Students in MSEP programs pay only 150 percent of the resident tuition rates. A complete list of approved programs is available from the Office of Admissions. Students from these four states should request MSEP status when they apply for admission to the university.

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/reenrollment 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/reenrollment.”

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 specific exceptions are authorized by state law. The following people, and their spouses and dependents, are authorized to pay the equivalent of resident fees: (a) employees of the University; (b) people on full-time active military duty, stationed in Kansas; (c) people discharged or retired from
active military service under conditions other than dishonorable while serving in Kansas; (d) people who have lost their Kansas resident status within six months of their enrollment; (e) people who graduated from a four-year program at an accredited Kansas high school within six months of their enrollment at a state university, and who are Kansas residents for fee purposes at, or within 12 months of, high school graduation; and (f) people 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 Catalog. Students may not register after the first 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: less than 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 graduate credit hours are considered a full load. Graduate students who are part-time teaching assistants are considered full-time if they take six or more hours. Graduate students taking all or a majority of their courses which carry graduate credit must meet the 12-hour requirement to be certified as full-time students.

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 bachelor's degree 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 also may 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.)

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 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.

Cr/NCr may also be granted to a freshman for the first semester of work during the transition semester, as discussed in the Transition Semester section of the Catalog.

Transfer of Credits

Within the University

From University College. Students will be automatically transferred from University College to one of the six undergraduate degree-granting colleges when they have selected an academic major from one of the degree-granting colleges.

Other Transfers Within the University. Students may transfer from any undergraduate degree-granting college to another or to University College provided they meet, as a minimum, the admission requirements of the second college. Since some departments have space problems, they are forced to impose some limitations on the number of transfer stu-
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 established by the department and 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 with disabilities should contact the Director of the Resource Center for Independence for assistance with special examinations.

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 same manner and pay the same fees as for credit courses at the University. Auditors may take advantage of the same privileges of class participation and instructor evaluation afforded students enrolled for credit.

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. 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.

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 Rl. 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.

(a) Beginning on June 1, 1987, for students first enrolling at a college or 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.

Beginning Fall 1994, see (b).

(b) Beginning with the Fall 1994 semester, a grade of A, B, C, D, or F received at completion of a repeated class at WSU will automatically replace ALL previous grade(s) received for that course in computation of the student's cumulative grade-point average. A student may use the option of repeating a course for the purpose of grade replace-
Credit Points. For each hour of work the student takes, credit points are assigned to regular letter grades (A, B, C, D, and F) to permit averaging of grades: $A=4$, $B=3$, $C=2$, $D=1$, and $F=0$.

Course Attempted. An attempted course indicates that the student has enrolled officially in the course and that the student may have completed the course, been granted an incomplete or withdrawn. Attempts include courses receiving the grades A, B, C, D, F, W, Cr, NCr, S, U, and CrE.

Course Completed. A completed course is a course in which a letter grade of A, B, C, D, F, Cr, NCr, S, or U has been assigned.

Credit Hours Earned. Credit hours earned means that credit is given (A, B, C, D, Cr, S, or CrE). No student may earn credit for any one course more than once, unless the description in the Wichita State University Catalog specifically states that the course is repeatable for credit.

Change of Grades

Changes of grade due to errors in grading or reporting may be initiated by an instructor at any time during one calendar year following the assignment of the original grade. A grade change also may be initiated by the chairperson of the department that offered the course if, and only if, the instructor is not in residence. The approval of the dean of the college of the department concerned is needed to have the change in grade 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 cause for failing to withdraw properly. If the petition is granted, the grades are changed to W through the usual withdrawal procedure.

If a student requests a change more than a year after the original grades were posted, the student’s petition also must 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 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 2.00 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 NCr 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 the student’s 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 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, or Satisfactory.
3. Students must receive at least a 2.00 GPA.

Students who fail to meet these requirements will not be awarded transition semester and will be subject to the appropriate probation or dismissal standards.

Credit by Examination

Advanced standing credit may be obtained 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. Credit by examination will not be awarded for duplication of credit or to replace course grades. Students should check with their academic advisor before attempting any test. 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 office.

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 and Testing Center. General CLEP examinations are intended for entering freshmen; a student with divisional credit will not receive additional hours by taking general CLEP examinations. Information about the dates and times at which CLEP examinations are given is available from the Counseling and Testing Center.

3. Credit for certain specified general education courses may be earned through examinations administered by the Wichita State Counseling and Testing Center. Information concerning the specific courses for which these tests are available and the standards applied in granting credit are available from the Counseling and Testing 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 apply directly to the chairperson of the department offering the course and consult with the Counseling and Testing 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.

5. Except for special departmental exams discussed in the next paragraph, the grade recorded for credit earned by examination is CRE and it is recorded on a student's transcript after enrollment in the University. Students may not take a credit-by-examination test for credit in a course in which they have previously enrolled unless they received a W for the course. They may not retake any such examination. Students may not request an examination for course credit in a course for which they do not have the stated prerequisite credit. Credit earned by examination is treated exactly like that earned by class enrollment for internal purposes at Wichita State (class standing, completion of course prerequisites, college requirements, etc.).

6. It is possible to show letter grades on the transcript for departmental credit by examination if approval for letter grades is granted by the University's Committee on Academic Standards and Practices. Approval is granted if the department demonstrates to the committee that the testing procedure for credit by examination is equivalent to the testing procedure in the corresponding credit class. The committee on Academic Standards and Practices asks for periodic review of this testing procedure. For example, the number of hours of testing through both the credit class and the credit examination should be approximately the same, and laboratory courses need to include laboratory experiences as a part of the credit examination. When letter grades are awarded for credit by examination, a notation identifying the credit as credit by examination will be included on the transcript along with a statement explaining that credit earned by examination represents equivalency with the examination experience and performance for the regularly graded course. When students take credit by examination for letter grades, the following additional policies apply:

a. Students are allowed to withdraw from any credit-by-examination test at any time prior to its evaluation. Prior to taking the exam, students must be informed of the option not to submit the exam for the recording of a grade. Once 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.

7. 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 and Testing Center.

8. All credit by examination is subject to University policies and will be reviewed by the Registrar before being placed on the transcript.

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 3.25 and a grade point average of at least 3.00 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 also may be exempt from college regulations, if any, governing the maximum number of hours students may take during a semester in one department. However, no student shall enroll in more than 21 hours without the permission of their college dean.

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 Wichita State University or neighboring bachelor’s degree-granting institutions who have an overall grade point average of 3.00 or above in their major field and in upper-division courses and who are within ten hours of completing the bachelor’s degree may take work for graduate credit under the Senior Rule. This work must go beyond the requirements for the undergraduate degree and the degree must be completed within the semester in which a student takes the graduate courses. Students also must 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 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 composite score on the Enhanced American College Test is at least 26 or if their high school grade point average is at least 3.500 as certified by the University. Transfer and continuing students may enter the program if they have achieved a minimum grade point average of 3.250 over at least 24 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. All students must complete an interview for admission to the Emory Lindquist Honors Program.

Students in the Emory Lindquist Honors Program are required to maintain a minimum grade point average of 3.250 and make regular progress toward completion of 21 hours of honors credit in at least two different departments. Specific information about this regular progress requirement should be obtained from the program office. Program requirements include: at least nine of upper-division (300-level and above) honors course work; five regular honors sections (as opposed to honors options or independent study) with at least two of these regular honors courses being upper-division courses. With the approval of the honors director, graduate 700-level courses (excluding workshops) may be taken in place of regular upper-division honors courses, and appropriate 600-level courses may also count toward this requirement. Students enrolled in programs which severely restrict elective hours may petition the director to substitute honors option courses for regular upper-division honors courses. A written statement of benefits and requirements is available from the program office, 218 Lindquist Hall.

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

103. Special Studies in Natural Sciences and Mathematics. (1-4).
201. Proseminar in Humanities and the Fine Arts. (1-4).
203. Proseminar in Natural Sciences and Mathematics. (1-4).

Upper-Division Courses

301. Colloquium in Humanities and the Fine Arts. (1-4).
303. Colloquium in Natural Sciences and Mathematics. (1-4).
310. Honors Tutorial. (1). Repeatable to a maximum of three hours of credit.
400. Honors Seminar. (1-4).
410. Independent Study. (1-4). Repeatable to a maximum of six hours of credit.
420Q. Seminar in Humanities and Fine Arts. (1-4).
440Q. Seminar in Natural Sciences and Mathematics. (1-4).

Honors Mentor Program

Much of the excitement of college learning comes through informal discussions with faculty and other students. Honors 310, Honors Tutorial: Selected Readings offers just such an opportunity. This course features informal discussions between groups of five or six students and a faculty mentor. While four or five books are read and discussed during the semester, the primary purpose of the course is to personalize the educational experience and give students an opportunity to talk about other education concerns they may have.

Independent Study

Leading to a Degree With Departmental Honors

Outstanding students may enroll in the junior or senior years in independent study which leads to a degree with departmental honors if the work is satisfactorily completed. Students with junior standing and a cumulative grade point average of 3.250 are eligible to conduct projects in their major area of study. A student considering such a project should begin planning the work well in advance of the semester during which the work is to be done. In order to enroll in Honors 410—Independent Study, the student must consult with the honors director and obtain the approval of the instructor in the student's major department who will be the advisor for the project. The written application must then be approved by the chairperson of department and by the dean of the student’s college. The completed application form
must be filed with the honors director no later than the second week of the semester during which the student desires credit for the work.

An independent study project should consist of original research or creative work. To be graduated with departmental honors, a student must complete the independent study project and write the results according to specifications established by the honors director. The student must be examined on their project and other aspects of the major field of study. A three-member faculty committee conducts the examination and determines the student's eligibility for graduation with departmental honors. 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.

**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.

Students enrolled in six through eleven hours of graded work per semester who achieve a grade point average of 3.500 or higher will receive Academic Commendation. The list of such students will be published each 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.

Each spring outstanding students are recognized in a congratulatory list published by the University. Graduating seniors are honored if they have a cumulative WSU grade point average of 3.250 or higher and class honors are awarded to students who have completed a minimum of 12 hours of graded course work at Wichita State with a cumulative WSU grade point average of 3.750 or higher.

**Withdrawal**

**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 (line 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 for each dropped course, students must take the drop slip(s) to the office of the dean of the college for the dean's signature and final approval. The completed drop slip(s) must then be taken to the Registrar's office in Jardine Hall. Refund, if any, will be made according to the schedule published in the Wichita State University Schedule of Classes.

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

**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 above the level required by their college for graduation (or above 2.00 for University Col-
Academic Probation and Dismissal Standards

Specific regulations governing probation and dismissal standards are established by each college at Wichita State and are given in the introductory statements in the individual college and the University College sections of the Catalog. Students should consult the appropriate section of the Catalog for these standards.

Since 2.000 (a grade of C) is the minimum grade point average required for graduation from Wichita State, students are formally placed (or continued) on probation at the conclusion of every semester in which their overall WSU grade point average falls below 2.000, except as noted below. If the college in which students are enrolled has a higher graduation requirement, students may be placed on probation whenever their WSU grade point average falls below the college's specified level.

Students admitted in good standing will be placed on probation when they have attempted six hours and their WSU grade point average falls below 2.000. Attempted hours are defined as all hours appearing on the transcript with a grade of A, B, C, D, F, W, Cr, NCr, I, S, or U.

Transfer students admitted on probation must complete at least 12 semester hours at Wichita State with a 2.000 average before probation may be removed.

A student on academic probation is limited to a maximum of 12 semester hours in the fall and spring semesters.

Dismissal standards are set by the various colleges and by University College of Wichita State in conformance with the following policy.

Students will not be dismissed if either their WSU grade point average or their last semester's grade point average equals the minimum graduation level of their college. They will remain on probation as long as their WSU grade point average is below the minimum University or college graduation standard and their semester grade point average meets the minimum college or division standard.

Students will be dismissed at the end of the semester in which they accumulate 12 attempted credit hours with a semester and WSU grade point average below the minimum required after being placed on probation. Students are not academically dismissed at the end of a semester unless they began that semester on academic probation.

Dismissal from a college because of poor academic performance constitutes dismissal from the University. Nonetheless, a student whose grade point average qualifies him or her for admission to another college may apply to the Committee on Admissions and Exceptions of that college.

Court of Student Academic Appeals

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. Hours of credit earned toward a degree do not include courses with grades of F, W, Au, NCr, or I.

Students must maintain an overall grade point average of 2.000 (transfer work included) and a grade point average of 2.000 on all work taken toward a degree at Wichita State. Furthermore, students must maintain a grade point average of 2.000 in the courses in their major field of study.

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

Students must have a minimum of 40 semester hours of credit in courses numbered 300 or above.

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.

At least 30 semester hours of course credit (A, B, C, D, 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. Exception 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 bachelor's 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 person. The General Education Program provides the opportunity for all students to grow in their knowledge and appreciation of the rich variety of human achievements in the arts, humanities, and sciences.

The goals for General Education are as follows: 1) to understand the humanities and how they explore the complexity of the human experience, 2) to understand and appreciate various art forms, 3) to understand human functioning and behavior in individuals, groups, institutions, and societies, 4) to understand the natural sciences, their application in technological innovation and development, and their impact on society, 5) to study and apply basic mathematical principles, 6) to study and apply principles of written and oral communication. The program combines required courses in the Basic Skills (composition, oral communication, and mathematics) with introductory courses in the disciplines, Further Study courses in the disciplines, and Issues and Perspectives courses.

Significant development of oral and written communication, mathematical,
and library research skills is expected of all Wichita State University graduates.

Students transferring to 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 Wichita State University General Education Program as determined by transcript evaluation. This refers only to students with previous college credit and is not applicable to entering freshmen.

Students entering the University in the Fall Semester of 1994 must satisfy the following requirements:

I. **FOUR Basic Skills courses** (to be completed during the first 48 college hours with a grade of C or better).
   - A. English 100 or 101, and 102
   - B. Communication 111
   - C. Mathematics 111 or 112

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

II. **SEVEN Introductory Courses in the disciplines, to include**
   - A. **ONE COURSE** chosen from one of the following Fine Arts disciplines: Art History, Dance, Musicology-Composition, and Theater.
   - B. **TWO COURSES**, one chosen from each of the following Humanities disciplines:
   - C. **TWO COURSES**, one chosen from each of the following Social and Behavioral Science disciplines:
     - Anthropology, Economics, Geography, Minority Studies, Political Science, Psychology, and Sociology.
   - D. **TWO COURSES**, one chosen from each of the following Mathematics/Natural Sciences disciplines:
     - At least one of these courses must be chosen from Biology, Chemistry, Geology, Mathematics/Statistics*, and Physics.

III. **THREE Further Study Courses**, distributed as follows:
   - A. **A Further Study (but not Introductory) Course** in one of either the Fine Arts or the Humanities disciplines chosen for an Introductory Course:
     - An Issues and Perspectives** course in the Fine Arts or the Humanities.
   - B. A Further Study (but not Introductory) Course* in one of either the Social and Behavioral Sciences disciplines chosen for an Introductory Course:
     - An Issues and Perspectives** course in the Social and Behavioral Sciences.
   - C. A Further Study (but not Introductory) Course* in one of either the Mathematics/Natural Sciences disciplines chosen for an Introductory Course:
     - An Issues and Perspectives** course in the Mathematics/Natural Sciences.

* Non-professional courses only, and excluding Basic Skills.
** One, but no more than two Issues and Perspectives courses counts for General Education credit.

<table>
<thead>
<tr>
<th>General Education Requirements</th>
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<tbody>
<tr>
<td><strong>Basic Skills to be completed with a C or better (12 hours minimum)</strong></td>
</tr>
<tr>
<td>English Composition I and II</td>
</tr>
<tr>
<td>Oral Communication</td>
</tr>
<tr>
<td>College Algebra or Precalculus Mathematics</td>
</tr>
</tbody>
</table>

**Fine Arts and Humanities (12 hours minimum)**

One introductory course: Art History, Dance, Musicology-Composition and Theater

Two introductory courses, one chosen from each of two of the following disciplines:

- Communication*, English*, History, Linguistics, Modern and Classical Languages and Literature, Philosophy, Religion, Women's Studies
- One further study course* in either Fine Arts or Humanities
- An Issues and Perspectives** course in Fine Arts or Humanities.

**Social and Behavioral Sciences (9 hours minimum)**

Two introductory courses, one chosen from each of two of the following disciplines: Anthropology, Economics, Geography, Minority Studies, Political Science, Psychology, Sociology

One further study course* in one of the Social and Behavioral Sciences
- An Issues and Perspectives** course in Social and Behavioral Sciences

**Mathematics and Natural Sciences (9 hours minimum)**

Two introductory courses, one chosen from each of two of the following disciplines: Biology, Chemistry, Computer Science*, Geology, Mathematics/Statistics*, Physics.

(At least one of these courses must be chosen from biology, chemistry, geology or physics.)

One further study course* in one of the Mathematics/Natural Sciences disciplines
- An Issues and Perspectives** course in Mathematics/Natural Sciences

All courses which qualify for General Education credit are preceded in the Catalog and the Schedule of Courses by a caret (^). Courses within a student's major department shall not count in fulfilling General education requirements. (This restriction applies only to one major. For students with a double major, courses in the second major could count in fulfilling their requirements.)

The Introductory Courses

**The Fine Arts Courses**

Art H. 121G, Survey of Western Art: Ancient
Art H. 122G, Survey of Western Art: Renaissance and Baroque
Art H. 124, Survey of Western Art: Modern
Dance 140, Art of the Dance
Mus. C. 160G, Heritage of Western Music
Mus. C. 162, World of Music
Thea. 143G, Art of the Theater

**The Humanities Courses**

Comm. 190G, Introduction to Human Communication
Eng. 230G, Exploring Literature
Eng. 232G, Themes in American Literature
French 210Q, Intermediate French (P)
Germ. 220Q, Continuing German (P)
Greek 223, Intermediate Greek (P)
Hist. 100G, World Civilization since 1500
Hist. 101G, Western Civilization to 1648
Hist. 102G, Western Civilization from 1648
Hist. 131Q, History of the USA—Colonial Period to 1877
Hist. 132Q, History of the USA—1877 to Present
Latin 223, Intermediate Latin (P)
Ling. 151G, The Nature of Language
Phil. 100G, Meaning of Philosophy
Phil. 125Q, Introductory Logic
Phil. 144Q, Philosophy
Pol. S. 190G, The American Woman
Span. 210Q, Intermediate Spanish (P)
Geog. 120Q, Principles of Human Geogrophy
Geog. 210Q, World Geography
Min. S. 100Q, Introduction to Minority Studies
Min. S. 210Q, Fundamentals of Cross-Cultural Communication
Pol. S. 121G, American Politics
Pol. S. 226Q, Comparative Politics
Psych. 111Q, General Psychology
Soc. 111Q, Introduction to Sociology

The Mathematics/Natural Science Courses
Biol. 104Q, Introducing Biology
Biol. 105G, The Human Organism
Biol. 203Q, Introduction to Organismal Biology
Chem. 103Q, General Chemistry
Chem. 111Q, General Chemistry (P)
CS 105, Introduction to Computers
Geol. 102, Earth Science and the Environment

The Issues and Perspectives Courses
The Fine Arts/Humanities Courses
Hist. 308G, Lost Civilization
Hist. 330G, The Americans
LAS 222Q, East Asia
LAS 300G, Peace and War
Mus. C. 310, Interrelated Arts (P)
Phil. 300G, Science and the Modern World

The Social and Behavioral Science Courses
Anthr. 201G, The American Hero
LAS 222Q, East Asia
LAS 300G, Peace and War
Pol. S. 232Q, Basic Ideas in Political Theory
Psych. 416Q, Psychology and Problems of Society (P)
Psych. 534, Psychology of Women (P)
Soc. 316, The American Male

The Mathematics/Natural Science Courses
Biol. 310, Human Reproduction: Issues and Perspectives (P)
Biol. 370Q, Populations, Resources, and the Environment (P)
Chem. 301, Issues and Perspectives in Chemistry (P)
Geol. 300G, Energy, Resources, and the Environment
Math. 531, Introduction to the History of Mathematics (P)

(P) designates courses with prerequisites

The Further Study Courses in the Disciplines
Further Study Courses in the disciplines which qualify for General Education credit are identified in the course listings for departments/programs/disciplines in the Undergraduate Catalog and each semester’s Schedule of Courses by being prefixed with a caret (^). These General Education requirements are stipulated in previous Undergraduate Catalogs.

Date of Catalog Requirements
Students who have not been out of college for more than two consecutive calendar years may graduate under the requirements in effect at Wichita State when they first entered any college or university. They also may graduate under the requirements of any subsequent Wichita State Catalog. They may not, however, be allowed to graduate under the requirements of a Wichita State Catalog in effect earlier than two years preceding their enrollment at Wichita State. Guest students are considered to have entered Wichita State at the time they become guest students and are subject to the preceding provisions.

If students, including nondegree-bound students and open admission students, have had their college program interrupted by more than two consecutive years, they will be subject to the requirements in effect when they reenter, or, if they elect, the requirements of a later Catalog.

The Wichita State Catalog is in effect from the fall semester of the year it is published through the Summer Session of that academic year. The Catalog is a guide for information only and is not a contract.

Second Bachelor’s Degree From Wichita State
Students with a bachelor’s degree from another institution may receive a second bachelor’s degree from Wichita State University upon completion of a minimum of 30 hours in residence, provided that none of the 30 WSU hours is counted in the first degree and provided that all Wichita State college and department graduation requirements are met.

Students who have received one bachelor’s degree from 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. Individual colleges hold recognition ceremonies following University commencement.

Previous General Education Program
For students who entered the University prior to the Fall Semester of 1994, courses in the Undergraduate Catalog and the Schedule of Courses identified by a G or Q suffix qualify for General Education cred-
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 designed, 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 adviser from within the appropriate departments. Each placement is assessed by the faculty adviser 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 adviser. During the work period, students are expected to meet project requirements assigned by their adviser. 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 sponsors 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 McKinley 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. The Division of Continuing Education's programs and activities are directed toward meeting higher education needs throughout the Wichita area and the state.

Major functions of the Division include:
1. Support of the teaching mission of WSU’s degree-granting colleges, provide credit courses and academic support services (alternative information sources, admission and registration procedures, etc.) at off-campus centers in Wichita and Sedgwick County.
2. Cooperate with the Media Resources Center, provide regular WSU credit courses using electronic delivery systems such as cable television, satellite, or video/microwave transmission for the convenience of people who find it difficult to come to the campus on a regular basis.
3. Work with business, industry, and the professions to provide specialized credit and noncredit classes, conferences, and seminars to the community, including contracted customized training for area employers.
4. Administer the University’s program of scholarships for part-time students.
5. Provide a program of non-credit courses and workshops for personal and professional enrichment through the Marcus Center for Continuing Education (the University’s conference center).
6. Coordinate reception of national teleconferences to make distant expertise and resources available to the University and community.
7. Provide planning and support services to continuing education centers and units within the individual academic colleges, maintain institutional records of academic extension activities, and provide reports on these activities to the Kansas Board of Regents.

Graduate School
About 3,000 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, aerospace engineering, anthropology, art education, biological sciences, business administration, chemistry, communication, communicative disorders and sciences, computer science, counseling, creative writing, economics, educational administration and supervision, educational psychology, electrical engineering, elementary education, English, geography, gerontology, health science, history, industrial engineering, liberal studies, mathematics, mechanical engineering, music, music education, nursing, physical education, physical therapy, physics, political science, psychology, public administration, school psychology, science education, secondary education, sociology, Spanish, and studio arts. The Specialist in Education, a degree beyond the master’s level, is awarded in counseling, educational administration and supervision, and in school psychology. Doctoral programs are offered in applied mathematics, chemistry, communicative disorders, and sciences; aerospace, electrical, industrial, and mechanical engineering; educational administration, and human factors and community/clinical psychology. 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 continues 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 300 faculty teach more than 1,000 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 two-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
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0013
(316) 689-3010
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 also are held for each of the short sessions. Detailed information on registration is available in the Summer 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 entrepreneurship workshop for people considering creating a small business; and field study in topics such as the natural 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 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, described below. Additionally, students can individually study abroad for up to four hours of credit. For more information, contact the Office of International Programs, 303 Grace Wilkie Hall.

Exchange Program with the University of Orleans. Wichita State University has a special exchange program with Wichita's French sister city, Orleans. Through this exchange program, students pay their tuition and fees at WSU and do academic work in their chosen field at the Universite d'Orleans. For more information, contact the Department of Modern and Classical Languages and Literatures, 305 Jardine Hall.

Summer Programs in Strasbourg, 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. 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 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 an education at Wichita State. The remaining expenses are paid out of donations made to the Wichita State University Endowment Association and from appropriations of the State of Kansas.

Comprehensive Fee Schedule
Fees given in this Catalog were proposed for 1994-95 and may be changed by the Kansas Board of Regents or the Kansas Legislature.

Basic Fees
Basic fees for on-campus regular enrollment and continuing education credit courses are:

<table>
<thead>
<tr>
<th></th>
<th>Undergraduate tuition</th>
<th>Graduate tuition fee</th>
<th>Student fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident</td>
<td>1 through 14 hours</td>
<td>1 through 12 hours</td>
<td>1 through 14 hours</td>
</tr>
<tr>
<td></td>
<td>$57.15</td>
<td>$83.00</td>
<td>$857.00</td>
</tr>
<tr>
<td>Nonresident</td>
<td>$233.15</td>
<td>$272.00</td>
<td>$3,264.00</td>
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Registration fee

<table>
<thead>
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<th></th>
<th>per semester</th>
<th>per semester</th>
</tr>
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<tbody>
<tr>
<td>Resident</td>
<td>$5.00</td>
<td>$8.00</td>
</tr>
<tr>
<td>Nonresident</td>
<td>$5.00</td>
<td>$8.00</td>
</tr>
</tbody>
</table>

* Tuition and fees are for the Fall and Spring semesters and Summer Session.

The student fee, required of all students enrolled on the Wichita State campus, supports the Educational Opportunity Fund, parking, student union, athletics, Heske Center, student health services, forensics, Student Government Association, University Forum Board, student publications, concerts, drama, and similar items.

Off-Campus Regular Enrollment, Continuing Education Credit Courses, and Workshop Fees
A specific course fee of $75 (undergraduate) or $100 (graduate) per credit hour is assessed for off-campus courses.

Workshop Fees—On Campus
A workshop fee of $75 per credit hour, including tuition and student fees, 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. Physical education (bowling)—$40 per semester
4. Physical education (bowling), PE 201B—$9 per course
5. Physical education (horsemanship)—$75 per semester
6. Physical education (scuba diving)—$75 per semester
7. Physical education (CPR and first aid certification)—$1 per certification
8. Engineering equipment and maintenance fee—$15 per credit hour for engineering courses
9. College of Education Certification Review and Transcript Analysis fee:
   a. Initial certification review for student—not charge
   b. Endorsement review for in-state practicing professionals—$10 per student
   c. Analysis of out-of-state transcripts—$20 per student
   d. Analysis of foreign transcripts—$30 per student

Free Music Courses
During the academic school year, students enrolled in the following ensembles will not be charged tuition and fees:
Wind Ensemble, Mus. P. 210B, 410B, and 710B
Orchestra, Mus. P. 211A, 411A, and 711A
Band (Symphony), Mus. P. 211B, 411B, and 711B
Band (Concert), Mus. P. 212B, 412B, and 712B
University Singers, Mus. P. 211F, 411F, and 711F
Jazz Arts Ensemble, Mus. P. 211T and 212T, 411T and 412T, and 711T and 712T
A Capella Choir, Mus. P. 212F, 412F and 712F
Concert Chorale, Mus. P. 213F, 413F, and 713F

Special Fees, Deposits, and Waivers
Certain other fees are assessed as indicated below:
Career placement registration fee:
   Seniors..........................$10/person
   Nonstudents.........................$25/person
   Equivalency examination fee..................$8/credit hour
   Credential mailings..................$3/mailing
College of Health Professions
   Physical therapy application fee...............$20/person
   Physician assistant application fee...........$15/person
   Acceptance fees:
      Emergency medical technician*..............$25/person
      Dental hygiene*..........................$100/person
      Medical technology*........................$100/person
      Nursing*..................................$100/person
      Physical therapy*..........................$100/person
      Physician assistant*........................$100/person
      Respiratory therapy*........................$100/person
Diploma replacement fee..........................$20/copy

English composition placement fee..................$4/person
Departmental examination fee..................$8/credit hour
Identification card fee..........................$6/person
Music instrument use fee.........................$15/semester
International student application processing fee.............$25/person
Late registration fee:
   Through 20th day..........................$10/registration
   After 20th day..........................$25/registration
Library fines and lost materials—cost per fine schedule or cost of replacement of material plus a processing fee
Media course fee..........................$8/credit hour
Orientation fee:
   Transfer student..........................$20/person
   New freshman student..........................$25/person
Public documents per copy charge..................$0.10/page
Reserving of class fee..........................$30/person
Returned check fee..........................$15/check
Scholarship search fee:
   Currently enrolled students—$10/person
   Non-WSU student..........................$15/person
Testing and credit by examination fee:
   Experiential learning assessment fee.................$25/person
   Departmental examination fee $8/credit hour
   Transcript/certification fee..................$3/copy
Undergraduate admission application fee, initial enrollment..........................$15/person

*Acceptance fees are due within 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.

Transaction Fee
Students registered early 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 transaction 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 including full withdrawals. 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 20 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). All refunds are subject to a $10 drop fee.

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 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 60 years of age or older may enroll as auditors (noncredit) in any academic credit course in which space is 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).

Financial Assistance
Wichita State offers financial assistance through scholarships, federally supported programs, and employment. Students interested in any type of financial assistance should contact the University's Office of Student Financial Planning and Assistance, 223 Grace Wilkie Hall, to see what assistance is available for their specific needs. Most financial assistance 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.


Student Housing Fees
Room and board rates at Wichita State University vary with the choice of meal plan. Housing costs for the 1994-1995 school year are $3,299 for 19 meals per week, $3,227 for 15 meals per week and $3,121 for 10 meals per week, paid monthly. The installment payment plan is $5 per installment ($40 per year). A $5 late fee will be charged if an installment payment is not received by the fifth day of the due date. Single rooms are available at an additional cost of $300 per semester to returning students only. These rates include furnished, air-conditioned rooms, local telephone service, and all utilities.

In addition to the housing fee, a $35 nonrefundable application fee is assessed of each person applying for a room in the residence halls. Rates are for fiscal year 1995. Fees may be changed by the Kansas Board of Regents.

Endowment Association
The Endowment Association of 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 Scholarships and Grants
Wichita State University has been fortunate to receive donations submitted in the names of the following individuals. Many are past graduates, faculty, friends, and administrators of the University who wish to assist future graduates in financing their years at Wichita State University. The scholarships listed have a minimum principle of $2,500, 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 assistance.

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

Endowed scholarships are funded from earnings on donor endowment funds. The principal of these funds is never expended, therefore scholarship funding is available in perpetuity.

Endowed scholarships and respective departments include:

Athletics

AIFAM, athletics

Anderson Walk-On, athletics
Athletics Scholarship
Beech Employees Club, athletics
Sidney J. Brick, bowling
Harry Corbin
David Dearmore, athletics
Anna, Emily, and Isabel Drummond, women's tennis
Floyd Farmer, athletics
Sam Gardner, golf
Golf Memorial, golf
Cheese Johnson, basketball
Albert and Marion Katzennier, athletics
Marquerite Keely, women's basketball
Susan M. Kraft, athletics
Morris and Flossie Krouse, athletics
Bob Long/Vince Lombardi, athletics
Minuteman Athletic Endowment, basketball and baseball
Carl Nath, baseball
Marge Page, golf
Kern Purves, golf
Thomas Reeves, athletics
Fritz Snodgrass, track
Dave Stallworth, basketball
Dr. Ronald Summers, athletics
Hazel Walpole, athletics
Ben and Helen Wilson Football Memorial, athletics

Business
Fred and Mary Aley, business
Jack Austin, business
Loren Baker Memorial, entrepreneurship
W. Frank Barton, business
W. Frank Barton, entrepreneurship
William H. and Olive Ann Beech, business
V. Jerry Blue, entrepreneurship
Byron W. Bothe Memorial, entrepreneurship
James Chubb, economics
Rick P. Clinton, business
Leland F. Cox, business
Paul T. and Mary Jane Curry, entrepreneurship
Urban Denker, real estate
Cecil W. and Helen J. Dorman, business
Charles S. Evenson, business
Howard Frazier Memorial, business
Richard H. Homburger Award for Excellence, business
F.G. and Hanna Jabara, entrepreneurship
Charles and Nina Kirby Jones, liberal arts/business
Marvin B. Kaufman Memorial, business
Herbert P. Lindsley Memorial, business
George David Lodge, business
Anita Lusk, business
Frank H. Miller, accounting
Frank A. Neff Memorial Award, business
Kenneth Northcutt Memorial, business
John N. Payne, business
Richard and Jean Reidenbaugh, entrepreneurship

Education
1993 Undergraduate Program Students
Robert Allen, education
Archie G. and Gladys A. Anderson, education
James E. Anderson, Sr., education
Robert E. Anderson-Leonard M. Chaffee, education
Josephine Brown, education
Curriculum & Instruction Faculty & Alumni, education
Sid Faires Memorial, education
Floyd M. Farmer, education
Josephine Fugate, education
Kenneth and Nadine Gleason, education
Grand Army of the Republic, logopedics
Herbert J. Hamm, education
Dr. Robert Holmer, education
Charles and Amy Mahin, English/education
Nancy C. Millett, education
Sid F. Moore, teacher education
John M. and Nelda Nickel, education
O. Carroll and Nelle Noel Memorial, curriculum and instruction
Nygard Family Scholarship, physical therapy/education
Robert T. Pate, education
Physical Education Alumni
Linwood Sexton, elementary education
Sam and Rosemary Sherr, communicative disorders
Gladys Taggart, physical education
Helen J. Throckmorton, English
Andrea Uleberg, education
Bill Umphrey, physical education
David Wainwright Memorial, ROTC
Fern Worden and Frederick Wieland, education

Engineering
Ric Abbott, aeronautical engineering
Dr. Wayne Becker Memorial, engineering
Walter H. Beech, aerospace engineering
Walter H. Beech and Olive Ann Beech, engineering
Stephen W. Burnam Memorial, mechanical engineering

Verda Colaw Memorial, engineering
Earl R. Hutton, engineering
John C. and Maude James, engineering
Alex and Genevieve Petroff Memorial, aerospace engineering
Edgar Stewart, engineering
H.W. Sullivan Award, engineering
James Ray Trapp Memorial, engineering
Harold J. Varhanik, engineering
Dwane and Velma Wallace, engineering
Women's Aeronautical Association, engineering

Fine Arts
Mildred "Mickey" McCoy Armstrong, fine arts
James Kerr Bandsman, music
Walter H. and Olive Ann Beech, music
Lloyd R. Bell Memorial, music
Merrill Bosworth, music
Melba Cornwell Budge, piano
Raymond LeClair Budge, art
Marjorie Calkins Memorial, music
Vincent Canzoneri, music
James Cessar, music
Cramer Fund for Art, art
Walter J. Duerksen, music
Howard E. Ellis, music
Gordon W. Evans Instrumental, music
Louise Findlay, music
Martha Fleming, dance
Morris and Mary Garvin, music
Henry and Helen Gott, music
Larry Hartmann, music
Heriford Scholarship, fine arts
Frank and Margaret Kessler, music
Robert M. Kiskadden, art
Jay and Lillian Kornfeld, music
June M. Lair Endowment for the Arts, fine arts
Martha Nevling Langlois Endowed Violin Scholarship, fine arts
Thurlow Lieurance, music
Ronald D. Mason Scholarship, French horn
Juliaenne Weaver Masters, theatre
Audrey Needles, performing arts
Henry J. and Tina Nickel, fine arts
Adrian Pouliot, music
Ruth Ann Reagan, music
Mark Rindt Memorial, band
James P. Robertson, music
Sawallis Award for Excellence, fine arts
John Schneider, music
Sigma Alpha Iota, music
Elizabeth Parrott Skaer, music
Billie Smith, choral music
Clayton Staples, art
Gordon B. Terwilliger, fine arts
Thursday Afternoon Music Club/Holman Flute Scholarship

Thursday Afternoon Music Club/Mabel and Milo Wright, fine arts
Vocal Performance Majors, music
George Wilner, drama
Elmer and Mabel Worthington, music
Paul R. Wunsch, music

General
Clark and Rowena Ahlberg, general
Alumni Awards, general
Anonymous, general
A.J. and Jean Bachas, general
Bank IV, general
Big Brothers-Big Sisters of Sedgwick County, general
Margaret F. Gillespie Brehm, general
J.W. and Hazel Brown Memorial, general
George Wilner, drama
Class of 1927, general
Clark and Rowena Ahlberg, general
Elmer and Mabel Worthington, music
Paul Donald G. Christian Football Memorial, general
Anonymous, general
Vocal Performance Majors, music
Constance Louise Routh Decker-Kansas Council of University Women, general
John W. Duren Football Memorial, general
Margaret F. Gillespie Brehm, general
Alumni Awards, general
Edith and Harry Darby Foundation, general
Louisa Byington, general
Van Dilla Chapell, general
Donald G. Christian Football Memorial, general
Christmas Card Scholarship, general
Class of 1927, general
Daisy Stever and Lisle Stephan Congdon, general
Helen Johnson Frank, general
Friends of Delta Upsilon, general
Glen Gardner, general
Mabel Fay Gillespie, general
R.L. Gillespie, general
Jacob and Molly Glickman, general
Harry Gore, general
Charles and Helen Graves, general
Benjamin F. Hammond, general
Eva C. Hangen Delta Gamma, general
Martin E. Harrison Football Memorial, general
Helen Johnson Frank, general
Friends of Delta Upsilon, general
Glen Gardner, general
Mabel Fay Gillespie, general
R.L. Gillespie, general
Jacob and Molly Glickman, general
Harry Gore, general
Charles and Helen Graves, general
Benjamin F. Hammond, general
Eva C. Hangen Delta Gamma, general
Martin E. Harrison Football Memorial, general
Evelyn A. Hinton, general
Myrri Houch, general
Frank C. Isely, general
Col. James J. Jabara, general
J.R. and Inez Jay, general
Nicola S. Jimenez Memorial, general
Ronald G. Johnson Football Memorial, general
Kansas Regents Honor Academy, general
Randall B. Keisau Football Memorial, general
John F. Kennedy Memorial, general
Mallory W. Kimmel Football Memorial, general
Carl R. Krueger Football Memorial, general
Lawrence A. and Alma A. Pray Lallermant, general
R. E. Long, general
Sam and Milly Marcus, general
Lenora N. McGregor, general
Men of Webster, general
Pearl J. Milburn, general
Sophia Berman Molk Scholarship, general
Stephen A. Moore Football Memorial, general
Oliver Baker Nasse, general
Thomas B. Owen, Jr., Football Memorial, general
John W. Page, general
Mabel A. Putnam, general
J. Dean Rickman, general
Nettie and J.W. Rickman, general
Eugene Robinson Football Memorial, general
Vera Hutton Seaman, general
John T. Sheddan Football Memorial, general
Soroptimist of Wichita, general
Sorosis Alumni Award, general
Richard N. Stines Football Memorial, general
Swett Prize, general
John R. Taylor Football Memorial, general
Jack R. Vetter Football Memorial, general
Grace Wilkie Women's Scholarship, general

Health Professions
Christopher Benn, medicine, science/engineering
Hazel and Edward R. Brookings, health
Department of Nursing Alumni/Faculty, health professions
Edith A. Garlock, health
Harold P. Gates Memorial, physician assistant program
Allene Nelson Henderson, nursing
Arthur and Annabelle Johnson, health
Christopher R. Knapp Memorial, health
Dr. Robert F. and Judith Malone, health
John G. and Barbara McCune, health
Nyggaard Family Scholarship, physical therapy/education
Physician Assistant Student Society, health
Ola Osborn Piper, health
Paul Christopher and John Timothy Rose, health
Harold and Ruth Van Noy Scholarship, premed
Mary Varhanik, health
Kenneth O. Welk, physical therapy
Wesley Foundation Women's Association, maternal/child nursing

Liberal Arts and Sciences
E.W. "Pete" Armstrong, chemistry
Douglas Bendell, liberal arts
Joseph G. Berkely/High Plain Journal, communications
Biological Science, biology
Dr. Leslie Blake, speech
Marguerite Bliss and Isabel Ford, liberal arts and sciences
Luelia Bosworth, English
Hazel Branch, biology
War O. and Agnes Brooks, biology
Charles M. Buss, chemistry
Anna V. and Robert V. Christian, chemistry
Harry E. Christopher Award, math
Flora Clough, English/literature
Sara Hyde Corbin, political science
Lee Cornell, geology
Wayne Coulson, prelaw
Al Cress, German
Laura McMullen Cross Honorary, liberal arts
Betty Elliott, communication
John L. Evans, premed
Fletcher-McKinley, chemistry
Charlaine and Lynette Furley, liberal arts
Paul H. Gerling Public Affairs Internship, political science
Harold and Eva Weiner Grafton, English
Marie Graham, history
Carrie Halfman Memorial, English
Geraldine Hammond, liberal arts
Donald R. Harbour, administration of justice
Mary Haymaker, English
Herman-Fellers, minority students
Arthur J. Hoare, mathematics
Angelika R. Howard, conversational languages
Grace Howell, journalism
Sam C. Hutchinson, liberal arts
Charles and Nina Kirby Jones, speech communication
Charles and Nina Kirby Jones, liberal arts/business
Lee and Helen Kamen Scholarship in History
Lee and Helen Kamen, political science
Vernon Keel Founders Award, communications
Grant F. Kenyon Memorial, psychology
Dr. Army C. King, math
Martin Luther King Endowed Scholarship, minority studies
George Lewis, psychology
Charles and Amy Mahin, English/education
Frank A., Jr., and Frank Clifford Malone Memorial, chemistry
Other Endowments

To improve its fiscal stability, Wichita State University has developed a permanent endowment fund to provide ongoing income support for University programs and activities.

Endowment funds are invested in stocks, bonds, and other financial instruments. Five percent of the fund balance is distributed annually for University programs according to the donors' intended purpose. Unspent earnings are reinvested as principal to protect the value of the endowment against erosion by inflation.

Every donor automatically becomes a member of a University gift club:

- Friends: $1-$499
- Harvest Club: $500-$1,999
- President's Club: $2,000 annual
  - $50,000 life
  - $100,000 deferred
- Fairmount Society:
  - $20,000 annual
  - $200,000 life
  - $500,000 deferred

Donors who contribute an irrevocable deferred gift are eligible for life membership in the President's Club or Fairmount Society at age 62.

Current Scholarships

Current scholarship dollars are contributed annually by donors. Funds to support these scholarships come from annual gifts rather than earnings and therefore all of the scholarships listed may not be available every year.

Current scholarships and respective departments include:

**Athletics**
- Carl Guinney Memorial, baseball
- Alan Lee, golf
- Jimmy Ray Maynard Memorial
- Clyde Miller
- Dr. David A. Robl
- William W. Tilma Memorial

**Business**
- Alumni of Arthur Andersen and Co.
- Boeing Scholarship
- Gertrude W. Devlin
- Farm Credit Services and Federal Land Bank
- Farmers Insurance Group of Companies
- Anita Frey, real estate
- Dr. Gerald Graham, entrepreneurship
- Heskett Scholarship
- Institute of Real Estate Management (Wichita Chapter)

- Bernice and Jack Rees Scholarship
- Shocker Auction, all colleges
- Dr. Christine Thelen, operation success

KPMG Peat Marwick Scholarship
Kansas Bankers Association
Koch Accounting
Fred C. Koch, entrepreneurship
Lindburg and Vogel
The Ron Mann/Airtechnics, Inc.
F. Lynn Markel
Overstreet Scholarship
Alan and Robyn Reichert
Society for Human Resource Management (SHRM)
Grant Thornton
Kay Walls Foundation

**Education**
- College of Education Project Grow Your Own Teachers (GYOT)
- Faneta Fitchett Memorial
- Engineering
- Olive Ann Beech/Pratt & Whitney Canada, aerospace
- Boeing Scholarship
- J.L. Case
- Cessna Foundation Scholarships
- Donald L. Hommertzheim Memorial, industrial
- Delmar D. Klocke
- Vulcan Materials Company

**Fine Arts**
- Olive Ann Beech
- Community Art Guild
- Walid Gholmieh, music
- Larry Gile Memorial, violin
- Delmar D. Klocke
- Mary R. Koch
- Lee Southwell Naftzger
- Brett Neff Memorial
- Jackie Smith Southard Endowment
- Kim Stephens, dance
- Wichita Symphony Society

**General**
- Augusta Christian Church
- Bank IV
- Boyer Education
- Glen W. Dickinson
- William L. Graham
- Deborah G. Haynes & R. Larry Beamer
- Honorary Leadership
- Grant Howerton Memorial
- Helen Leifert Memorial
- William O. Long
- Minority Scholarship
- Proctor Ritchie
- Del Roskam
- University Dames
- Wichita Crime Stoppers
- Wichita Scottish Rite—Herman Shorb

**Health Professions**
- Health Related Professions
- Mary Klocke, nursing
liberal arts and sciences
Natalie Booth, speech
D.J. Malone
Victor Murdock, journalism
Pueblo Summer Program
Martin Umansky, communication
Richard Webster Memorial, journalism

Other
Craig Barton Outstanding Greek Sophomore
International Student Metropolitan Life, handicapped
Marty Waters

Student Affairs
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 enrollment services, student life, development, programs, problems, and activities on the Wichita State University campus are addressed by the staff of the division.

The Office of Enrollment Services, which includes undergraduate admissions, student financial planning and assistance, the Office of the Registrar and registration, is responsible for activities related to the admission and enrollment process.

The Office of Student Life and Services, 105 Grace Wilkie Hall, is responsible for the residence halls, off-campus housing concerns, services for people with disabilities, fraternities and sororities, student organizations and student involvement programs, the child development center, women's resource center, international programs, placement and career services, campus recreation, student health, informed sources, 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 vice president is responsible for Operations Success, Project Discovery, Upward Bound, and Upward Bound Regional Math-Science, the federal TRIO programs for disadvantaged students. (See the Special Programs section of the Catalog for more complete description of these programs.)

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

Individual career counseling is available to assist students and alumni/alumnae 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 people 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.

The Center also houses the Computerized Job Search Lab, a system of Macintosh computers and programs to help students prepare job search documents such as resumes and cover letters.

Degree candidate and alumni/alumnae 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.

Counseling and Testing
The Counseling and Testing 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 also are part of the center's function. The credit by exam program and the National Testing program are administered directly by the Counseling and Testing Center. The National Testing program includes certification tests for community professionals, CLEP tests, and entrance exams for colleges and graduate schools.

Housing
On-campus housing is available for more than 600 students in Fairmount Towers. Housing options include an honors floor, 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. Exemption forms are available from the Housing Department. All other students may select their own accommodations; however, University housing is highly recommended. The Wichita State University housing policy states:

New freshmen 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.

Send requests for information to:
Director of University Housing
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0141

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.

Office of International Programs
International Programs, 303 Grace Wilkie Hall, serves the special needs of approximately 1,300 international students from more than 80 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 new international students prepares them for entrance into the American academic systems and way of life.

International Programs also sponsors the Friendship Family Program, the Global Education Program, and other activities that promote interaction between American and international 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.

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.

Resource Center for Independence Serving Students with Disabilities
The Resource Center for Independence (RCI) provides supportive services for students who experience physical or mental disabilities. Students qualified for this service can receive a handbook of services by contacting the office:

Resource Center for Independence
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0132
(316) 689-3309

Services are designed on an individual basis and may include the following: note taking, assistance to class, library assistance, test proctors, sign language, study partners, assistance typing papers, and brailing notes. Some auxiliary aids are available for students to use. Textbooks also can be recorded on tape when requested.

The RCI encourages students to be as independent as possible on campus and to use those services which help maximize learning. Meetings with the director or other staff are available Monday through Friday, 8 a.m.-5 p.m.

Student Health Services and Student Health Insurance
The Student Health Services in 209 Ahlberg Hall provides ambulatory health care for students with health concerns, medical problems, illnesses, and injuries. Clinic services and health education are provided by 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; dentistry; gynecology; internal medicine; and family practice are available.

Special services of immunizations, anonymous HIV testing, tuberculin 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 for students and dependents. 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.

Student Involvement Programs
The Office of Student Involvement Programs, located in 105 Grace Wilkie Hall (689-3022), exists to serve the needs of WSU's student organizations and individual students in the areas of leadership and involvement. The mission of the office is to encourage WSU students to become involved in campus life and community service and to provide WSU students with the skills and training necessary to become effective leaders. A combination of programs, services, and consultation are offered to accomplish this mission.

Services and programs currently offered include a leadership library, student organization needs assessment, student involvement preference surveys, workshops and conferences on topics related to leadership, a student involvement and leadership speakers bureau, a student organization handbook, and an ongoing community service program. Additionally, personnel are available to provide specialized training and consultation to students and student organizations upon request. Many of these programs and services are delivered through the Leadership Council and the Student Involvement Recruitment Team, which are made up of student volunteers with an interest in leadership and a commitment to helping their peers.

All students are encouraged to use the services and programs offered through this office where they can find "what they need to succeed."

University Child Development Center
The University Child Development Center, located in a facility which opened in January 1991, is a licensed school for children of WSU students. Lead teachers with degrees, assistant teachers, and 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 six weeks to six years old. Children must be scheduled for a minimum of two days a week and a minimum of two hours each day. The program permits children to attend day care while their parents are in class. It is available to the greater community as well on a space available basis.

Special Programs
Center for Economic Development and Business Research
The Center for Economic Development and Business Research, a service of the W. Frank Barton School of Business, engages in business and economic research for a wide variety of clients in both private and public sectors. The center collects, analyzes, and disseminates information to support activities of government, education, business, and economic development organizations in the Greater Wichita Area.

The center maintains a comprehensive database of economic indicators including retail sales, personal income, employment, construction, and census data. Activities focus on issues related to the economic health of the region. The center publishes Business & Economic Report quarterly. A supplemental monthly also is published called Kansas Economic Indicators.

Center for Entrepreneurship
The Center for Entrepreneurship, housed in Devlin Hall, is within the W. Frank Barton School of Business. 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 from freshman to graduate level.

The center offers a Bachelor of Business Administration in Entrepreneurship. The entrepreneurship major is one of the few in the nation providing special training for students who may wish to establish their own enterprise or operate a new and rapidly growing business. It also will be useful for those who expect to become involved with a family owned business or those who desire to take part in new business development or other activities within larger organizations. In addition, MBA students may select entrepreneurship electives resulting in a sequence in entrepreneurship.

Seminars and workshops are offered for those interested in entrepreneurship. The most popular workshop, "Entrepreneur-
ship: Your Future in Business," has received international recognition. In addition, there is a one-week "Entrepreneurship Camp" for high school juniors and seniors.

Additional programs include a visiting lecture series, scholarships, and the Alpha Chapter of the Association of Collegiate Entrepreneurs (ACE). ACE is a resource and information network for current and aspiring entrepreneurs.

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

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 coordinates scholarly and curricular activities related to the study of gender and culture. Although within Fairmount College of Liberal Arts and Sciences, the center participates in course offerings, research projects and other educational activities with many other academic units both within and beyond Fairmount College. The center is responsible for administering the BA in women's studies, as well as the minor, and supervises the work of students pursuing a concentration in women's studies in various undergraduate and graduate areas. In addition, the center serves as an informational resource for University students and faculty, as well as for the greater Wichita community.

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.

National Institute for Aviation Research
The National Institute for Aviation Research, a state-supported KTEC Center of Excellence, conducts research projects for government and industry, and provides access to research facilities by faculty and students. Institute laboratories are often used for demonstrations in support of the academic programs of the College of Engineering and the Fairmont College of Arts and Sciences.

Research at the Institute focuses on aeronautical topics such as airplane aerodynamics; crashworthiness of aircraft seats and other structures; producability of aircraft components made of composite materials; reliability of avionics and computer software; strength and failure mechanisms of aircraft materials; human factors related to cockpit design and piloting; and de-icing of airframe surfaces and engine inlets. Often the aeronautical knowledge gained is applied in non-aviation areas such as development of wind turbines and production of lightweight, high-strength bicycle parts.

The Center for Technology Application provides support to manufacturers in the application of technologies that include Computer Integrated Manufacturing (CIM), Computer Aided Design (CAD), and Quality. The CTA also operates the Wichita Regional Office of the Mid-America Manufacturing Technology Center (MAMTC), a state and federally supported technology transfer program which assists small and medium size manufacturers in becoming and remaining competitive.

Operation Success, Project Discovery, Upward Bound/Wichita Prep, Upward Bound/Galaxy Experience
Operation Success, Project Discovery, and Upward Bound's Wichita Prep and Regional Math-Science Center/The Galaxy Experience are special programs designed to help students prepare for university life and successfully complete their courses of study.

Operation Success/Student Support Services, a federally funded program, provides limited income and first generation college students with a multiplicity of academic support services which assist students to persist and graduate from WSU. The program provides comprehensive, one-on-one tutorial assistance and an interconnected series of support services: academic and personal counseling, financial aid assistance, career guidance, assistance in the development of study skills, a text book usage program and free access to work processor and typewriters. 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 Wichita State University in July 1977. The project assists approximately 1,500 low-income people in gaining admission to postsecondary institutions throughout the nation and preparing for secondary school. The program provides assistance to middle school students, high school students, and dropouts from secondary and postsecondary schools. Specific help is provided with admission forms, financial forms, and registration for ACT/SAT assessment examinations. Tutorial assistance and instruction to middle school students is also provided. The project's two offices at Wichita State and Labette County Community College serve middle (WSU only) and high schools and community agencies in Wichita and nine counties in southeast Kansas.

The Upward Bound programs are federally funded programs that have been at WSU since 1966 (Wichita Prep) and 1991 (The Galaxy Experience). Wichita Prep assists high school students from low-income backgrounds and who are first-generation university students with academic potential but who may have inadequate secondary school preparation. The high school students participate in an intensive six- to eight-week summer and nine-month academic year schedule to improve academic and social skills. Services include tutorial assistance; academic, career, and personal counseling; post-secondary admission; and classes and workshops.

The mission of the Upward Bound Regional Math-Science Center/The Galaxy Experience, is to stimulate and advance interest in mathematics, science, and computer technology; challenge students to perform; provide a unique residential, academic, exploratory, hands-on
experience; and encourage high school students to realistically consider attaining a postsecondary degree in mathematics or the sciences. The program offers high school students from low-income backgrounds and first generation university students the opportunity to interact with a highly qualified staff and faculty, as well as industry and peer mentors. Fifty participants are drawn from public and private high schools in a four-state area—Kansas, Missouri, Nebraska, and Iowa. Ten of the 50 participants spend a week in the Future Astronaut Space Camp in Hutchinson, Kansas. The program focuses on four themes important in the discipline of science:

- **Space Science**—emphasizes how and why this country puts both human being and machine into outer space.
- **Aerodynamics**—investigates the wonders of flight within earth’s atmosphere.
- **Environmental Concerns**—examines conservation and pollution issues in the nation and in immediate surroundings.
- **Human Health Issues**—focuses interests in biological science on issues most pertinent to students.

**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 foundations, and businesses; coordinates the preparation and submission of project proposals; and handles the general administration and reporting of sponsored grants and contracts.

**Small Business Development Center**

The Small Business Development Center, part of the Barton School of Business, was established in October 1983. The SBDC provides free one-on-one management assistance, resource referrals/business information and low cost training to small business owners, including potential business owners and inventors. The WSU SBDC serves 16 counties of south-central Kansas.

The state director of all Kansas SBDCs also is part of the Barton School of Business and is collocated with the WSU SBDC. The director oversees ten regional and 15 associate SBDCs located 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 person’s experience for the benefit of both. Such interaction rounds out the senior and graduate 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 research, service, and continuing education. The center serves as a resource center and information clearinghouse to assist agencies and organizations in planning and developing services for older people.

**University Press of Kansas**

The University Press is operated jointly by six state Kansas universities: the University of Kansas, Kansas State University, Wichita State University, Emporia State University, Pittsburg State University, and Fort Hays 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.

**Center for Urban Studies**

The Center for Urban Studies was established in the late 1990s in response to the profound social, economic, and political change occurring in the Wichita metropolitan area. The center contributes directly to the urban mission of Wichita State University through teaching, research, and community service focused on the enhancement of government and public affairs.

The Master of Public Administration degree constitutes the primary instructional responsibility of the Center. The objective of the degree is to provide high-quality professional education for people entering positions of leadership in public and quasi-public organizations. The program has been structured in order to meet the diverse needs of full-time and part-time students, pre-entry and in-service students, students who are changing careers, and students with career interests in public management, public financial management, and public policy.

A core faculty and professional staff with expertise in public policy, public finance, and public management are engaged in conducting interdisciplinary research and performing community service directed to policy makers in state and local government. Current research includes analysis of SRS Youth Services, revenue and expenditure trends in local governments, unfunded state mandates, and compilation of selected papers of former Kansas governor Mike Hayden.

Faculty and professional staff respond to the needs of elected and appointed governmental officials, to the requests of public and quasi-public organizations, and to other segments of the community through a variety of community service programs: seminars for area city and county managers/administrators and city clerks; professional development for area public managerial personnel; certification training for the city clerks and municipal finance officers of Kansas; and municipal leadership workshops for local elected officials. The newest feature of the Center's community service program is the Wichita Assembly, a community problem-solving forum held twice each year. In addition to the ongoing programs, faculty and staff facilitate planning retreats for local city governing bodies and governing boards of quasi-public organizations, and respond to numerous requests from officials in public and quasi public agencies for technical assistance.

**WSU Center for Energy Studies**

The WSU Center for Energy Studies conducts energy-related research with emphasis on applications within the state of Kansas. Currently, the major focus of the research conducted in the center is related to various aspects of electric power and energy. However, research related to alternate and fossil energy sources is also within the scope of the center’s activities. The industry-supported Power Electronics and Power Quality Research Laboratory is also a part of the Center for Energy Studies. The center is housed in the WSU Department of Electrical 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**

Ablah Library, along with the Chemistry
and Music Branch Libraries, offers a wide range of materials, facilities, and services to support teaching and research at WSU. The libraries' growing collections of more than three million items include books and periodicals, microforms, government documents, corporate annual reports, scores, videotapes, audio recordings, CD-ROMs, and government documents. Government document holdings were enhanced in 1991 when Ablah Library became an official United States Patent and Trademark Depository Library, the only such depository in Kansas.

The Department of Special Collections houses the University Archives, rare books, historical Kansas maps, and a rapidly growing manuscript collection of more than 700,000 documents. This collection includes papers of the abolitionist William Lloyd Garrison, the Kantor Collection of the Civil War Sanitary Commission, and local history collections.

Library facilities include an open stack arrangement, seating for more than 800 people, group and faculty study carrels, electronic carrels containing listening and viewing equipment, microform reading and printing equipment, photocopiers, and typewriters. Additionally, computer terminals and printers are provided to access the library's on-line catalog and CD-ROM data bases.

The University's libraries offer a variety of services. Extensive hours provide students many opportunities for study and research, including dial-in access for the on-line catalog. Reference librarians are available to help students and faculty locate information and use the computerized systems. These librarians also perform literature searches in numerous remote computerized data bases. When materials are not owned, interlibrary loan services will locate and borrow materials from other institutions.

Cable Television
Wichita State University operates Channel 13 on Wichita's cable television system and WINDOWS on suburban cable systems. Both program services feature adult-oriented educational, cultural, and informational programming. This programming includes 15 to 20 television courses per semester offered for academic credit by the various colleges at WSU. Channel 13 and WINDOWS also produce programs featuring distinguished guest speakers, fine arts performances, and other campus events. WSU 13 is affiliated with The Discovery Channel and BizNet, nationally delivered program services.

WINDOWS is affiliated with The Learning Channel. In addition to full-time staff, 15 students are involved in the operation of the channel and the production of programs. Facilities are located in the Media Resources Center.

Campus Activities Center
The Campus Activities Center is the community center for Wichita State University. Through its facilities and services, the center serves students, faculty, staff, alumni, and guests of the University.

The center has several dining areas to provide a variety of atmospheres and menus as well as a catering department to meet special needs: the University Bookstore which stocks textbooks, supplies, and gifts; a recreation center for leisure use that includes video games, bowling, billiards, and a barber/beauty shop; a theater; and a variety of rooms that can be scheduled for meetings, special events, and conferences.

The reservations office schedules the use of all facilities in the center as well as most University facilities for out-of-classroom use. Through the Student Activities Council, students are provided an opportunity to learn and develop leadership skills while planning a variety of programs for the campus. The CAC is also home for the Student Government Association, Student Ombudsman, Ecumenical Christian Ministries, and Informed Sources, a student-run campus information center.

The CAC is supported through student fees and revenues generated from within the operation.

Electrical Engineering
Computer Facilities
The Department of Electrical Engineering in the College of Engineering has several computer laboratories. The main computer laboratory consists of 40 IBM-PC-compatible 80386 and 80486-based microcomputers, three SUN workstations, and three student laser printers, all networked over ethernet with Novell Netware.

A second laboratory, the Embedded Systems Laboratory, contains ten PC-compatible computers, two Novell test servers, and several Unix machines. This laboratory contains a full array of software development tools and literature for MS-DOS, Microsoft Windows, IBM OS/2, and Unix as well as tools for embedded microprocessor and microcontroller system research and development. In addition, the Embedded Systems Laboratory is a registered Novell Professional Devel-

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printing computer operations, and online administrative data bases. End-user assistance is available for both microcomputer and mainframe computing.

In 1992, the new Science Laboratory and Classroom building was completed. This new building provides state-of-the-art facilities for computing at Wichita State and allows greater computer access to students as well as faculty.

The central computing facility, located in the north portion of the new building, occupies three floors, two of which are accessible to the public. The first floor houses the open labs (for both mainframe and microcomputing), the print room, dispatch window, user services, and the Academic Support areas. The hours for the computer labs are: Monday-Thursday from 7 a.m.-midnight, Friday from 7 a.m.-6 p.m., Saturday from 10 a.m.-8 p.m., and Sunday from 1-8 p.m. The second floor contains the administrative offices, microcomputer repair and microcomputer networking and software offices, as well as a faculty and staff microcomputer classroom. The third floor is devoted entirely to housing the actual computer systems and technical support offices.

The computing facilities have been upgraded and now consist of one IBM ES9121 Model 440 mainframe computer, and a DEC VAX/4000 Model 500. The IBM mainframe has 256 million characters of main memory and more than 100 billion bytes of auxiliary disk storage. The new VAX equipment will provide 23 VUPS of computing power, with 192 million characters of main memory, 16 GB of disk storage and a 7 cartridge tape magazine with 18 GB capacity.

The campus network supports Ethernet, SNA, and asynchronous communications with more than 2,800 microcomputers and nearly 500 CRT terminals providing interactive computing for campus classrooms, laboratories, and offices. The terminals are available for use with the academic time-sharing systems VM/CMS and DEC/VMS and the administrative terminal system (CICS). Students can access the computing resources by using any of the campus computing labs located throughout the campus (as well as the ones located on the first floor of the computing center complex) designated for student use. Students also may access the campus network by using a telephone modem and dialing the campus data switch. Instructions and software for accessing the computing resources are available for a nominal fee in the campus bookstore. Information papers describing the facilities and the software supported by central computing are available in Room 120.

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.

Heartspring
Heartspring is a private, nonprofit rehabilitation center providing residential and community services located on 40 acres near the Wichita State campus. The institute specializes in habilitation and rehabilitation of children with speech, language, and hearing disorders. It provides residential, birth to age five, and outpatient services. The institute is University-related through its affiliation with the College of Education's Department of Communicative Disorders and Sciences, which offers academic preparation for Wichita State students desiring to work with communicatively handicapped children and adults. Observation and practicum opportunities are provided at the institute as part of the professional preparation of students in speech and language pathology and audiology.

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 166,000 square foot complex contains instructional, research, and recreational areas as well as the equipment necessary to support activities.

Activity areas consist of a weight room, fitness room, combatives room, 25-meter indoor swimming pool with separate diving well, eight handball-tennis courts, and a 200-meter indoor jogging track which surrounds five basketball courts. The outdoor area contains a six-court lighted tennis complex and four lighted play fields.

These activity areas are designed to facilitate an extensive campus recreation program.

KMUW Radio Station
KMUW Radio broadcasts at 89.1 FM. The 100,000-watt station is one of more than 490 member stations of the National Public Radio (NPR) network. KMUW's mission is to provide high quality cultural and informational broadcast services to the greater Wichita area as part of the university's urban mission of community service. KMUW also provides training and professional experience for students.

Marcus Center for Continuing Education
The Marcus Center is located at 4201 East 21st Street in a 10,000-square-foot conference center. The center is available for rent by University departments, professional organizations, business, and industry.

The conference center has teleconferencing capabilities, food service, banquet facilities, and at-the-door parking. It also has a new, modern IBM 486DX computer lab available for rental for training purposes with 15 machines and printer for every two computers.

Each semester, a variety of non-credit classes for personal enrichment, languages, recreation, tours, and computer classes are offered at the Marcus Center.

Media Resources Center
The Media Resources Center is a comprehensive media and video communications organization serving the instructional, research, and service aspects of Wichita State. The center is housed in a 20,000 square foot, state-of-the-art facility with specialized audio recording studios located in Duerksen Fine Arts Center and Wiedemann Hall. The MRC also operates WSU Channel 13, the University's cable television station.

Facilities and resources include a professional television studio, an electronic classroom, videoinfocentifications organization serving the instructional, research, and service aspects of Wichita State. The center is housed in a 20,000 square foot, state-of-the-art facility with specialized audio recording studios located in Duerksen Fine Arts Center and Wiedemann Hall. The MRC also operates WSU Channel 13, the University's cable television station.

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skills; critical reading skills; and enhance verbal reasoning and test scores on such standardized tests as the PPST and GRE. Complete descriptions of courses offered at the center are included in the University College section of the Catalog.

In addition to formal course work, the Reading and Study Skills Center offers study skills workshops, study skills videotapes, and computer test preparation programs for students enrolled at Wichita State.

Rehabilitation Engineering Center
The Rehabilitation Engineering Center is housed in the College of Engineering. The mission of the center is to use technology to improve the vocational prospects for people with disabilities.

The qualified engineering staff and technicians, along with a well-equipped shop facility, provide the means to accomplish the center's mission. The center's research is supported by state and federal funds.

Satellite Television Reception
Seven 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. 

The lab has available for faculty and staff a large library of Shareware/Public Domain programs which may be accessed through a computer bulletin board. Contact the lab for further information.

Speech-Language-Hearing Clinic
The Wichita State University Speech-Language-Hearing Clinics, 104 Hubbard Hall, provides diagnosis and treatment of speech, language, and hearing problems, including hearing aid fittings. Services are available on a fee-for-service basis to people in Wichita and the surrounding communities and to University students, staff, and faculty.

Missouri Valley Conference and consistently ranks nationally in baseball 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; programs and excursions for children of WSU students, faculty, and staff; a family program; mini-classes and workshops; outdoor recreation, and aquatics.

Edwin A. Ulrich Museum of Art
The Edwin A. Ulrich Museum of Art is recognized among university museums for its outdoor sculpture collection and for the quality of its exhibition program. The museum is named in honor of Edwin A. Ulrich, a retired businessman who contributed funds to the University designated for the construction of the museum building. Ulrich also gave a collection of artwork by the American marine painter, Frederick Judd Waugh (1861-1940).

The museum opened in 1974 and over the years has developed an active exhibition program. As a visual laboratory for the students of the University as well as the community, the exhibition program presents a blend of traditional artwork, often from the museum collection, with more experimental work. Exhibitions have featured artists such as David Hockney, Romare Bearden, Morris Louis, Isabel Bishop, and David Salle along with collections of electronic and neon artists and Kansas native artists. In cooperation with the faculty of the College of Fine Arts the museum is the setting for concerts, lectures, and demonstrations by visiting artists as well as WSU faculty.

The art collection, owned by the Wichita State University Endowment Association and managed by the professional staff of the museum, now numbers more than 8,000 objects. Nineteenth and 20th century European and American art, paintings, drawings, sculpture, and prints form the core of the collection. The museum organizes traveling exhibitions of work from the collection. Recent exhibitions by Frederick Waugh, Gordon Parks, Photographs, Ernest Trova and of theme organized work such as Twentieth Century American sculpture have traveled to museums both in this country and abroad.

A major aspect of the collection is the 53-piece outdoor installation of the Martin H. Bush Sculpture Collection, named in honor of the founding director of the
The collection contains a cross-section of 20th century sculptures by artists such as Auguste Rodin, Henry Moore, Louise Nevelson, George Rickey, Lynn Chadwick, and Luis Jimenez. The centerpiece of this outdoor collection is the mural, Personnages Oiseaux, by the Spanish artist Joan Miro, located on the face of the museum building. Consisting of nearly one million pieces of Venetian glass and marble, the mural depicts humorous and delightful bird characters that inhabit the imagination of the artist.

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The Wichita Radio Reading Service
A sub-carrier of KMUW, the Wichita Radio Reading Service programs readings of printed material to more than 2,000 print-handicapped individuals. One hundred volunteers supply the readings, with additional programming from the In-Touch Network and National Public Radio.

Wiedemann Hall
Wiedemann Hall houses the first organ in North America by the world-renowned firm of Marcussen and Son, Denmark. The hall, which was dedicated in 1986, was designed as an ideal acoustical setting for the organ. In addition to the hall’s main auditorium, the building has four faculty offices; an organ studio; and rooms to accommodate announcing, recording, and televising.

The building is named for the late community philanthropist and music-lover Gladys H.G. Wiedemann who in 1983, as president of the K.T. Wiedemann Foundation, Inc., donated the great Marcussen organ.

Bloomfield Foyer, a gift of the Sam and Rie Bloomfield Foundation, Inc., graces the entrance to Wiedemann Hall.

Walter H. Beech and Supersonic Wind Tunnels; Water Tunnel
Various wind tunnels are available at Wichita State for student and faculty use in aerodynamic studies. The Walter H. Beech Wind Tunnel is a 160 mph closed-return tunnel with a 7' x 10' test section. Aerodynamic forces on models are resolved with either a pyramidal balance, located underneath the test section, or a sting balance, located inside the models. Data acquisition and reduction are accomplished with a Hewlett-Packard computer system. Pressure measurements, either on the surface of the model or off the surface, are made with a high-speed Pressure Systems Incorporated pressure measurement system. A video system (cameras and monitors) is utilized to monitor the model and record flow visualization data.

Two supersonic wind tunnels, capable of producing wind velocities from two to four times the speed of sound, are available. Schlieren or shadow graph techniques are used to visualize the shock waves over the wind tunnel models.

A 120 mph open-circuit subsonic wind tunnel with a 3' x 4' test section features a laser velocimetry system for flow measurement. A digital data acquisition and reduction system is used to acquire pressure measurements and a six-component sting balance for force measurements. Two smoke tunnels, a boundary layer tunnel, a water table, and a water tunnel are also available for flow visualization studies.

The 2' x 3' water tunnel, which began operation in 1987, is excellent for flow visualization. Dye filaments are introduced into the flow and data is taken with video and still cameras.

Student Activities and Organizations
Student organizations may be granted the privileges of a University organization if registered with the Student Government Association, providing lists of officers and other executive members, statements of purposes, and copies of constitutions and bylaws. Once an organization is registered with SGA, it may use Wichita State in its name, use University rooms or grounds for meetings, post announcements on University bulletin boards, and be listed as a WSU Organization in the Catalog, Campus Directory, and other publications.

Student Government Association
Wichita State believes that one of its primary tasks is preparing students for the responsibilities of citizenship in a democratic society. With this in mind, it places an increasing emphasis on the role the Student Government Association plays on campus.

The legislative, executive, and judicial responsibilities of SGA are vested in the Student Senate, Cabinet, and University Supreme Court. The senate appoints students to University committees, recognizes and funds student organizations and allocates approximately $1.7 million annually to campus agencies ranging from the child development center to the Heskett Center. The cabinet executes the decisions of the senate and the officers. The supreme court issues opinions on constitutional questions and also serves as an appeals court. Each of these entities also participates in the determination of University policy.

Each student is automatically a member of SGA and is eligible to vote in the annual elections in November. All students are encouraged to participate in student government through the many opportunities SGA offers.

For more information contact the Student Government Association, Room 202, Campus Activities Center, Wichita State University, (316) 689-3480.

Student Rates
Special rates for students are available for some campus activities. The following offices have ticket and price information: Campus Activities Center—on-campus movies; Duerksen Fine Arts Center (School of Music)—Wichita Symphony Orchestra and on-campus events; Wilner Auditorium—University Theatre; Henry Levitt Arena—athletic events; campus golf course—student golf rates.

Fraternities and Sororities
Eight national sororities are active at the University: Alpha Kappa Alpha, Alpha Phi Delta, Delta Delta Delta, Delta Gamma, Delta Sigma Theta, Gamma Phi Beta, Sigma Gamma Rho, and Zeta 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, Omega Psi Phi, Phi Beta Sigma, Phi Delta Theta, Pi Kappa Alpha, Sigma Alpha Epsilon, Sigma Nu, and Sigma Phi Epsilon.

Organizations
Honorary
Alpha Pi Mu
Beta Alpha Psi (Epsilon Tau Chapter)
Emory Lindquist Honors Society
Eta Kappa Nu
Golden Key National Honor Society
Kappa Delta Pi
Kappa Kappa Psi
Lambda Alpha
Mortar Board
Omnicron Delta Epsilon
Omnicron Delta Kappa
Order of Omega
Phi Alpha Theta
Phi Eta Sigma
Phi Sigma Tau (Beta Chapter)
Pi Delta Phi
Pi Epsilon Delta
Pi Mu Epsilon
Pi Sigma Alpha
Pi Tau Sigma
Psi Chi
Senior Honor Men and Women
Sigma Delta Pi
Sigma Gamma Epsilon
Sigma Gamma Tau
Sigma Theta Tau
SPURS
Tau Beta Pi
Tau Beta Sigma

Professional and Departmental
Additions Anonymous—Math Club
Administration of Justice Student Association
Aero Design Club
AIESEC
Alpha Kappa Psi
American Institute of Aeronautics and Astronautics
Anthropology Club
Association of Collegiate Entrepreneurs
English Graduate Student Association
HCOP (Health Careers Opportunity Program)
Health Administration Association
IEEE (Institute of Electrical and Electronics Engineering)
Institute of Industrial Engineers
Kansas Student Society of AAPA (Physician Assistants)
KSNEA—Kansas National Education Association
Medical Technology Student Association
National Student Speech, Language, and Hearing Association
Nursing Student Association

Philosophy Society
Political Science Club
Society of Automotive Engineers
Society of Human Resources
Society of Manufacturing Engineers
Society of Physics Students
Society of Women Engineers
Student Organization of Social Work
Student Physical Therapy Association
Wichita State Advertising Club
(Ad Astra Student Agency)
Women in Communications, Inc.
WSU Legal Assistants Society
WSU Speech and Debate Society

Special Interest
African Student Organization
Associated Malaysian Students of Wichita
BACCUUS/GAMMA
Badminton Club
Black Student Union
Cambodian Student Association
Campus Bible Study
Chess Club
Chinese Student Association
Chinese Student Friendship Association
Equalizers
Friends of Women’s Studies
Friendship Organization of the Malay Archipelago
Hispanic Leadership Organization
Indian Student Association
Indonesian Student Association
International Choir
International Student Association
Intervarsity Christian Fellowship
Japanese Student Association
Korean Student Association
LaCrosse Club
Laotian Student Association

Men’s Soccer Club
Men’s Volleyball Club
Native American Student Association
Organization of Pakistani Students
Racquetball Club
Russkii Kruzhok/Russian Club
Shockers Respect Life
Shri Lankan Student Association
Sigma Gamma Rho
Singapore Student Association
Skydiving and Scuba Club
Student Alumni Association
Student Association of Bangladesh
Student Audiology Club
Student Health Advisory Board
Student Orientation Leaders Association
Ten Percent
Turkish Student Association
University Lutheran Center
Vietnamese Student Organization
Water Ski Club
Wichita Singapore Association (WiSA)
Women’s Soccer
Wrestling Club
WSU Geology Club
WSU Potters’ Guild
WSU Sailing Club
WSU Spirit Squad
WSU Student Peace Group

Governing
Engineering Council
Engineering Open House Committee
Interfraternity Council
National Pan-Hellenic Association
Residence Hall Government
Student Activities Council
Student Government Association
Women’s Panhellenic Association
University College

James W. Kelley, 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 requires a 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 noncredit courses offered by University College.

University College is the academic home for (1) all students working toward degrees who have not declared an academic major; (2) nondegree-bound adult students; (3) guest students attending other colleges and universities who wish to enroll at Wichita State on a temporary basis (for 15 hours only); and (4) 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, career change, general updating, or professional certification. Academic and career advising also are provided for those students who may decide to work toward a degree after their initial enrollment.

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; and special programs targeted to specific student populations.

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 office. 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 bachelor's 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 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. 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 the university.

Nondegree-bound Students: Orientation programs are available, and recommended, for nondegree-bound students. UC 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 an ongoing, shared relationship between student and adviser that is an essential part of the university experience.

Degree-bound Student: 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 and the student is then eligible for immediate transfer to that degree-granting college. Deciding students who have not declared a
major area of study are assigned to members of the faculty and staff with academic advising responsibility in University College and other areas within 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.

Nondegree-bound Students: Nondegree-bound students normally are not 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.

Special Programs
Because of its urban setting and mission, Wichita State enrolls students with diverse backgrounds, aspirations and levels of educational attainment. In University College, special programs are designed to respond to the individual needs of students. As students seek to establish a foundation upon which their individual talents are developed and as they explore educational and career options through the university experience, special programs have been designed to support targeted student populations. Programmatic goals and objectives are designed to provide activities, academic support services, and educational experiences to facilitate the transition, intellectual, emotional, and personal growth and development of targeted students. Special program efforts in University College are intended to meet the challenges of student retention and are focused in two critical areas, service, and instruction.

Career/Life Planning
Degree-bound Students: A career/life planning emphasis helps degree-bound students begin to develop systematic career/life 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/life 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, UC 102, 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, personal 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 in addition to their major or discipline.

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 for the first job after graduation, and 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 and Testing Center.

Enrollment Limits
Students in University College in good academic standing may enroll for a maximum of 21 hours during fall and spring semesters and a maximum of 12 hours during the summer. Students wishing to enroll beyond these limits will need specific approval from the dean or associate dean of University College.

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 satisfactorily complete course requirements, they will receive a failing grade for that course. (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.

Students who have declared a major are transferred automatically to the college of their intended major.

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.

Those who subsequently wish to work toward Wichita State bachelor's 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 WSU 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 and achieve a 2.000 grade point average on work at Wichita State before probation is removed.

Students on probation normally are limited to a maximum load 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: All 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 2.000 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.

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. 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 mast plan for study and self-development in the University.

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

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

102. Topics in Career Exploration. (2). Involves students in the career/life, educational planning and decision-making processes based on career development theories. Uses various assessments and exercises 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. Addresses current workplace issues.

150. Workshop: Special Topics. (1-3). Meets identified needs of specific audiences.

160. Reading and Study Skills. (3). For any student who seeks to enhance his/her reading speed, reading comprehension and study skills. Other topics include time management, note-taking skills and test-taking strategies which prepare students for both university course work and our fast-paced society.
The mission of the W. Frank Barton School of Business is quality education, research, and service in business, economics, and entrepreneurial disciplines. This mission is achieved through (1) undergraduate and graduate degree programs designed to prepare professionally competent and socially responsible men and women for careers in business, government, and other organizations; (2) theoretical and applied research to enhance the quality of the degree programs and advance the body of knowledge; and (3) public service activities to facilitate economic and professional development.

Consistent with the University's role as the Regents' urban institution, the Barton School aggressively pursues regional and national prominence for its academic and professional programs.

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 are 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; its undergraduate and graduate programs are accredited by this organization.

### Degrees Offered

#### Undergraduate

**Bachelor's**
The undergraduate curriculum of 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: 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**
A two-year program in legal assistant training, which leads to the Associate of Science, is available. The legal assistant program is offered 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 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 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 minor in economics or 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 coursework for the degree program in health care administration offered through the College of Health Professions. This program prepares students to be qualified health care administrators in one of the many types of health facilities.

### Policies

#### Admission

**Pre-program.** Degree-bound students who select a business major will enter the college as pre-program students. To remain in the pre-program category in the College of Business, a student must maintain at least a 2.00 grade point average. For more information on general University admission requirements, see the Admission to Wichita State section of the *Catalog.*

**Full 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 communication, and three hours of college algebra with a grade of C or better in each.

**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 elementary economics, business statistics, business calculus, and a business computer 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 prerequisite for all upper-division courses in the school.

**Transfer students** planning to transfer...
into the Barton School of Business from another two- or four-year institution to obtain the BBA are advised to complete as much of Wichita State's general education requirements as possible before transferring. The following course areas are recommended for the first two years of college work:

- **Mathematics**
  - College algebra (3 hours)
  - Survey of calculus (3 hours)
- **Communication**
  - Composition (6 hours)
  - Speech (3 hours)
- **Humanities** (9 hours)
- **Social sciences**
  - Principles of economics (6 hours)
  - Psychology, sociology, anthropology (6 hours)
- **Business**
  - Introductory accounting (6 hours)
  - Business microcomputers (3 hours)
  - Business statistics (3-4 hours)
- **Nonbusiness electives** (10 hours)

### Probation and Dismissal

Pre-program students are required to maintain at least a 2.00 (C) average. Students are placed on academic probation whenever they have attempted six hours and their WSU grade point average falls below 2.00. 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 and achieve a 2.00 grade point average on work at Wichita State before probation is removed.

Students on probation normally are limited to a maximum load of 12 hours per semester, although exceptions may be made by the Dean of the College of Business. The limitation of 12 hours also applies to students who have declared a transition semester.

All pre-program students who have accumulated 12 attempted credit hours after being placed on probation and who do not have a 2.00 grade point average for the most recent semester or Summer Session will be academically dismissed. Students who have been dismissed may seek readmission to the College of Business by appealing, in writing, for an exception to the regulations.

**Full admission.** Students are placed on probation at the end of any semester in which they do not have a WSU cumulative grade point average of 2.250. Probation is removed when their WSU grade point average reaches the 2.250 level. Students remain on probation if (1) they earn a 2.00 or better grade point average in the semester during which they are on probation and (2) their WSU cumulative grade point average does not fall below 2.00. 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 readmittance 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.

### 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 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 physical education.

All Barton School of Business students are limited to enrollment in one course during any 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.

### 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 pro-

### 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 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 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 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 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 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 (106 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 also will 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 (116 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.

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 62 hours of course work offered outside the school (Econ. 201Q and 202Q and one upper division economics elective course 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
Engl. 101-102, College English I-II
Comm. 111, Public Speaking
General education electives

Sophomore Year
Acct. 210, Financial Accounting I
Acct. 220, Managerial Accounting I
Acct. 260, Introduction to Information Processing Systems for Business
Econ. 201Q-202Q, Principles of Economics I-II
Econ. 231, Introductory Business Statistics

General education electives

Junior Year
DS 350, Introduction to Production and Operations Management
DS 495, Management Information Systems for Business
Fin. 340, Finance
Mgmt. 360, Management and Organizational Behavior
Mkt. 300, Marketing
Upper-division business law course
Upper-division economics course
Major courses

Senior Year
Mgmt. 430, Business, Government and Society
Mgmt. 681, Strategic Management
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, Calculus I will be accepted in lieu of Math. 144 *

II. Environment of Business
B. Law 431, Legal Environment of Business or
B. Law 435, Law of Commercial Transactions and
B. Law 436, Law of Business Associations
Mgmt. 430, Business, Government and Society
Econ. 201Q-202Q, Principles of Economics I-II and one upper-division course...
Major/Minor Areas

Candidates for the BBA degree must satisfy the additional requirements of one of the following curricular majors. All students may avail themselves of the indicated minors. The minimum grade point average for a minor field of study shall be the same as the minimum grade point average required for graduation with a major in the same field.

School of Accountancy

Two degree programs are offered by the School of Accountancy—the Master of Professional Accountancy (MPA) and the Bachelor of Business Administration with an accounting major. In addition, a minor in accounting is available to any student whose major field or area of emphasis is outside of accounting. A minor in accounting consists of 9 hours of accounting course work numbered 300 or above. Given course prerequisites, this minor requires 15 to 18 semester hours.

MPA—Preprofessional Program Major

For a description of the undergraduate course work in the preprofessional component of the MPA degree program, see the Barton School of Business—Master of Professional Accountancy section of the Catalog.

BBA—Accounting Major

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>Acct. 310 and 410, Financial Accounting II and III</td>
<td>6</td>
</tr>
<tr>
<td>Acct. 320, Managerial Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 430, Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 560, Accounting Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 640, Auditing I</td>
<td>4</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>
</tbody>
</table>

Admission requirements for the CPA examination in Kansas specify a course in intermediate economic theory or a course emphasizing the monetary system.

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 in accounting consists of 9 hours of accounting course work numbered 300 or above. Given course prerequisites, this minor requires 15 to 18 semester hours.

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, Airplane Planning and Management</td>
<td>3</td>
</tr>
<tr>
<td>Av. Mgt. 422, Airline 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>
</tbody>
</table>

Electives:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<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:

A minimum of 15 hours must be selected from courses listed below and distributed over four of the five areas:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct. 310, Financial Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 320, Managerial Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 410, Financial Accounting III</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 430, Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 304, Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 340, Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 661, Collective Bargaining and Wage Determination</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 672, Introduction to International Economics and Business</td>
<td>3</td>
</tr>
<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>
<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, International Management</td>
<td>3</td>
</tr>
<tr>
<td>HRM 466, Human Resources Management</td>
<td>3</td>
</tr>
<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>
</tbody>
</table>

Electives: Selected from any of the above or other upper-division courses in the Barton School of Business. These may be "concentrated" or spread over a number of different disciplines.

Business Administration Minor. A minor in business administration is available to any student who is not pursuing a degree in the Barton School of Business. The minor consists of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct. 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Econ. 210Q, 220Q</td>
<td>6</td>
</tr>
</tbody>
</table>

Three of the following four courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS 350, Fin. 340, Mgmt. 360, Mkt. 300</td>
<td>9</td>
</tr>
</tbody>
</table>

Electives from upper-division business courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

Economics Major

Department of Economics

A major requires a minimum of 21 upper-division hours in economics beyond the...
Students interested in the bachelor's degree program in entrepreneurship should contact the Center for Entrepreneurship for special counseling and scholarship information.

Entrepreneurship Minor. A minor in entrepreneurship is available to students at WSU. A minor consists of 15 hours including: Entre. 160Q, 361, 465, 560, and 668. Entre. 150 may be taken in place of Entre. 160Q or in addition to Entre. 160Q, but credit will be awarded for only one of the two courses.

Finance Major
Department of Finance, Real Estate, and Decision Sciences
The major requires 21 hours beyond the college core. An emphasis in Bank Management or Real Estate may be obtained within the finance major. In addition, the department also offers a finance minor. All finance majors are required to complete Econ. 340, Money and Banking, as part of the general education core requirements.

Required Courses: Hrs.
Fin. 440, Financial Management II ............3
Fin. 660, Cases in Finance ......................3

Electives, from the following: 15
Corporate Finance
Fin. 610, Short-term Financial Management ....3
Fin. 612, Capital Budgeting ..................3
Investments
Fin. 620, Investments ........................3
Fin. 621, Security Analysis and Portfolio Management ....3
Fin. 622, Futures and Options Markets ........3
Fin. 625, International Financial Management ....3

Financial Institutions
Fin. 330, Introduction to Insurance ........3
Fin. 432, Contemporary Issues in Banking ......3
Fin. 631, Money and Capital Markets ..........3
Fin. 632, Commercial Bank Management ....3

Real Estate
RE 611, Real Estate Finance ..................3
RE 614, Real Estate Appraisal ..............3

Emphasis in Real Estate. An emphasis in Real Estate, within the finance major may be obtained by taking 21 hours beyond the college core, as follows:

Required courses
RE 310, Introduction to Real Estate ........3
Fin. 440, Financial Management ..........3
RE 619, Urban Land Development ........3
Electives, from the following: .................9
RE 438, Real Estate Law ..................3
RE 611, Real Estate Finance ..............3
RE 614, Real Estate Appraisal ............3
RE 618, Real Estate Investment Analysis ......3
Finance elective, 300 or above ...............3

Bank Management Emphasis. Finance majors wishing to emphasize bank management should include the following courses in their major:
Fin. 432, Contemporary Issues in Banking ....3
Fin. 632, Commercial Bank Management ....3
Econ. 340, Money and Banking .............3

Finance Minor
A minor in finance consists of 15 hours. This includes Fin. 340, Fin. 440, Acct. 440, Acct. 210, and six additional hours of finance courses (real estate courses will not count). At least six hours of upper-division finance courses must be taken in residence.

Human Resource Management Major
Department of Management
Required Courses: Hrs.
HRM 466, Fundamentals of Human Resource Management ....3
HRM 664, Labor Relations ....................3
HRM 666, Human Resource Selection .......3

Electives, from the following: .................6
Mgmt. 462, Leadership and Motivation
Mgmt. 464, Organizational Communication
Mgmt. 663, Organizational Interactions
Mgmt. 665, Organizational Development
Mgmt. 667, Organizational Structures and Design

Electives, selected with consent of major adviser ..........6
HRM 468 and 669 are recommended

International Business Major
Department of Management
Required Courses: Hrs.
Fin. 648, International Finance ...............3
Mgmt. 561, Introduction to International Economics and Business ........3
Mgmt. 683, International Management .......3
Mkt. 601, International Marketing ........3

Directed electives: Two of the following courses selected in consultation with the student's major adviser ..........6
Econ. 615, Economics of Transportation
Econ. 671, Economic Growth and Development
Geog. 510, World Geography
Within the student's total degree program, at least ten hours are required in a foreign language. An additional six hours of culture/area studies related to a geographic area are also required.

Management Major
Department of Management
Seven courses selected from the following:

**Course** | **Hrs.**
--- | ---
Mgmt. 462, Leadership and Motivation | 3
Mgmt. 464, Organizational Communication | 3
Mgmt. 665, Organizational Development | 3
Mgmt. 667, Organizational Structure and Design | 3
Mgmt. 680, Decision Making | 3
Mgmt. 683, International Management | 3
HRM 466, Fundamentals of Human Resource Management | 3
HRM 468, Compensation Administration | 3
HRM 664, Labor Relations | 3

Up to six credit hours may be substituted from upper-level courses in business administration with advisor's consent.

Marketing Major
Department of Marketing and Small Business

**Required Courses:**

**Course** | **Hrs.**
--- | ---
Mkt. 403, Marketing Research | 3
Mkt. 405, Consumer Behavior | 3
Mkt. 609, Marketing Programs | 3

**Electives,** from the following: | **Hrs.**
--- | ---
Mkt. 404, Retail Management | 6
Mkt. 407, Marketing for Service and Nonprofit Organizations | 6
Mkt. 601, International Marketing | 6
Mkt. 604, Distribution Management | 6
Mkt. 606, New Product Marketing | 6
Mkt. 607, Promotion Management | 6
Mkt. 608, Selling and Sales Force Management | 6

**Electives,** selected with consent of major adviser | **Hrs.**
--- | ---
RE 614, Real Estate Appraisal | 3
Directed electives, two of the following courses | 6
RE 438, Real Estate Law | 6
RE 618, Real Estate Investment Analysis | 6

**Real Estate and Land Use**

**Economics Major**
Department of Finance, Real Estate, and Decision Sciences

**Required Courses:**

**Course** | **Hrs.**
--- | ---
RE 310, Principles of Real Estate | 3
RE 611, Real Estate Finance | 3

**Master of Professional Accountancy**

The Master of Professional Accountancy program at Wichita State University is designed to prepare qualified candidates for careers as professional accountants in public practice, industry, government and nonprofit organizations. The program is based on strong preparation in general education courses with special emphasis on communication skills, mathematics and economics, and includes a broad exposure to the different aspects of business and management.

Students not possessing a bachelor's degree will receive both a Bachelor of Business Administration degree and a Master of Professional Accountancy degree at the time of graduation.

The MPA program requires a minimum of five years of full-time collegiate study, when beginning as a freshman. Students who decide to enter the program later in their academic careers should consult with the assistant director of the School of Accountancy to learn the approximate length of time it would take to earn the degree.

**Professional Designations.** Students interested in accounting may pursue 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 State Board of Accountancy (or the relevant state of residence/practice, if not Kansas). 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 from the School of Accountancy.

**Admission Requirements**

Admission to the MPA professional curriculum is available to (1) qualified students who have not yet completed a bachelor’s degree, and (2) qualified students who have completed a bachelor’s degree (not necessarily in business or accounting) from an accredited college or university. Students in the second category should consult the Graduate Bulletin for further information.

Full admission to the MPA professional curriculum, for students who have not yet completed a bachelor’s degree, requires:

1. Completion of the preprofessional curriculum described below.
2. A minimum grade point average of 2.750 on all courses identified as Barton School of Business core courses.
3. A minimum grade point average of 3.000 on the following courses: Acct. 310, 320, 410 and 430.
4. A total of 1,100 points based on the formula of 200 times the overall grade point average (4.000 system) on the last 60 hours plus the Graduate Management Admission Test (GMAT) score.

Students who meet all the requirements above except for lacking no more than nine hours of the preprofessional curriculum 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.

**Degree Requirements—Students Not Possessing a Bachelor’s Degree at Time of Admission**

Preprofessional Curriculum

Students pursuing the Master of Profes-
The professional Accountancy (MPA) are required to meet specified requirements for admission to the School of Accountancy. During the candidate's undergraduate work, the following requirements must be met:

1. The candidate must complete the general education requirements for Wichita State University, plus additional nonbusiness courses, for 62 semester hours. The following courses are specifically required by the School of Accountancy and may be counted within this 62 hours:

   - Econ. 201Q and 202Q, Principles of Economics I and II (6)
   - Upper-division economics course* (3)
   - Engl. 210, Composition: Business, Professional and Technical Writing (3)
   - Engl. 685Q, Advanced Composition (3)
   - Math. 111, College Algebra (3)
   - Math. 144, Business Calculus (3)
   - Phil. 144Q, Moral Issues (3)
   - Comm. 111, Public Speaking (3)

*Admission requirements for the CPA exam in Kansas specify a course in intermediate economic theory or a course emphasizing the monetary system.

2. The candidate must complete a minimum of 25 hours of the following Barton School of Business core requirements:

   - Acct. 210, Financial Accounting I (3)
   - Acct. 220, Managerial Accounting I (3)
   - Acct. 260, Introduction to Information Processing Systems for Business (3)
   - DS 350, Introduction to Production and Operation Management (3)
   - DS 495, Management Information Systems (3)
   - Econ. 231, Introductory Business Statistics (3)
   - Fin. 340, Finance (3)
   - Mgmt. 360, Management and Organizational Behavior (3)
   - Mgmt. 430, Business, Government and Society (3)
   - Mkt. 300, Marketing (3)

3. The candidate must complete the following courses required by the School of Accountancy:

   - Preprofessional Accounting Core: Acct. 310 and 410, Financial Accounting II and III (6)
   - Acct. 320, Managerial Accounting II (3)
   - Acct. 430, Taxation I (3)

   During the semester in which the preprofessional curriculum will be completed, the candidate for the MPA must apply for admission to the Graduate School. The GMAT should be taken during, or just prior to, this semester.

Professional Program

Candidates in the professional curriculum who have completed the minimum preprofessional curriculum as outlined above, must complete 59 hours in the following courses while maintaining an overall grade point average of 3.00 or better.

**Course Hrs.**

**Professional Accounting Core**

   - Acct. 510, Financial Accounting IV (3)
   - Acct. 560, Accounting Information Systems I (3)
   - Acct. 640, Auditing I (3)
   - Acct. 890, Professional Seminar (3)
   - Accounting electives (800 level) (15)
   - B. Law 435 and 436, Law of Commercial Transactions and Business Associations (3)
   - DS 871, Multivariate Statistical Methods or approved equivalent (3)
   - Mgmt. 862, Organizational Behavior or approved equivalent (3)
   - Mgmt. 885, Advanced Strategic Management (3)
   - Remaining Barton School of Business core requirements* (6)
   - Other electives** (12)

As a minimum, the candidate's total program must include 30 graduate-level hours, including 15 hours of accounting courses numbered 800, and a total of 20 semester hours of courses numbered 800 or above—excluding any courses which represent business common body of knowledge, and 9 hours of non-accounting courses.

*See list of courses under Preprofessional Curriculum. Core courses taken after admission to the MPA program must be graduate level equivalent courses.

**Electives must be selected in such a way as to conform to AACSB standards for Master's in Accounting programs. See the assistant director of the School of Accountancy for assistance in making selections.

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 WSU, 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 communication and three hours of college algebra with at least a grade of C in each course. Students may apply for admission to the Legal Assistant Program during the semester that these requirements will be completed.

Admission to the program involves these steps: (1) completion of an application for admission, including documentation of the GPA and specific course work listed above, and (2) completion of an admissions interview with the director or associate director of the program. In the event there are more applicants than the program can reasonably accommodate, the program reserves the right to set up admissions quotas. In such circumstances, applicants will be evaluated on the basis of academic record. Thus far, this procedure has not been necessary.

The associate director/adviser is available to counsel beginning and advanced students to ensure their basic skills and general education course work progress toward the legal courses in a logical and meaningful way. Appointments for pre-registration are recommended.

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) if there is space available.

Degree Requirements

The degree requirements for the Associate of Science in Legal Assistant are summarized as follows:
I. General Education Requirements .................................. 30

   A. Basic Skills ........................................... 12

      1. English 101 and 102, College English I and II .............. 6
      2. Comm. 111, Public Speaking ................................... 3

   B. Division A—Humanities and Fine Arts

      1. "G" or "Q" course electives .......................... 3-12

   C. Division B—Social and Behavioral Sciences

      1. "G" or "Q" course electives .......................... 3-12

   D. Division C—Mathematics and Natural Sciences

      1. "G" or "Q" course electives .......................... 3-12

II. Professional Curriculum ............................................. 34

   A. Required Courses ........................................... 16

      1. Law 120Q, Introduction to Law ......................... 3

      2. Legal 230, Introduction to Paralegalism .............. 3

      3. Legal 231, Legal Research and Writing .............. 3

      4. Legal 232, Litigation I .............................. 3

      5. Legal 240, Substantive Law: Torts .................... 3


   B. Required Courses or Validated Equivalents ................. 6

      1. Legal 238, Legal Assistant Internship ............... 3

      2. Legal 244, Legal Assistant Computer Skills .......... 3

      3. Legal 245, Legal Assistant in the Information Age .... 3

   C. Professional Electives .................................... 12-18

      1. Legal 232, Legal Aspects of Business Organizations .... 3

      2. Legal 246, Legal Research and Writing ............... 3

      3. Legal 260, Introduction to Information Processing ...... 3

III. 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 as required courses and professional electives under the professional curricula requirements, and (f) all courses counted as required courses and professional electives under the professional curricula requirements taken at Wichita State.

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 undergraduate, 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. Emphasizes 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.

220. Managerial Accounting I. (3). The study of accounting in terms of management's information requirements. Emphasizes the use of accounting in planning and controlling a firm's activities. Prerequisites: Acct. 210, Math. 109 or 111; sophomore standing.

260. Introduction to Information Processing Systems for Business. (3). Introduces the use of electronic information processing systems in solving business problems and meeting the informational needs of the modern business environment. Prerequisites: sophomore standing, Math. 109 or 111, Acct. 210 and admission to the Barton School of Business or permission of the School of Accountancy.

Upper-Division Courses


320. Managerial Accounting II. (3). An in-depth study of the accumulation and allocation of cost data for determining the value of goods and services produced, and for using these data to analyze operations. Prerequisites: junior standing, Math. 109 or 111, Acct. 220, and Acct. 260 or concurrent enrollment.

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


430. Taxation I. (3). An examination of the federal income tax law relating to individual income taxation. Prerequisites: Acct. 210 and 260 or concurrent enrollment; Math. 109 or 111; junior standing.

481. Cooperative Education. (1-2).

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

Courses for Graduate/Undergraduate Credit


560. Accounting Information Systems I. (3). A study of the content, design and controls of accounting systems, emphasizing the use of computers for processing financial data. Pre-
requisites: Acct. 220 and 260; Math. 109 or 111; senior standing.

640. Auditing I. (4). A study of the auditor's attest function, emphasizing auditing standards and procedures, independence, legal responsibilities, codes of ethical conduct and evaluation of accounting systems and internal control. Prerequisites: Acct. 260, 410, 560, Math. 109 or 111; senior standing.

690. Seminar in Selected Topics. (1-3). Repeatable for credit with School of Accountancy consent.

Courses for Graduate Students Only
Where a course is indicated as a prerequisite to a second course, all prerequisites to the earlier course(s) also apply to the later course(s).

800. Financial Accounting. (3). A study of the basic structure of accounting, income determination, asset valuation, liability recognition and accounting for ownership equity. Includes the interpretation and analysis of financial statements. May not be taken for credit in the School of Accountancy. Prerequisite: no previous credit in accounting or permission of the School of Accountancy.

810. Managerial Accounting. (3). Examines the use of accounting data to analyze management problems. Covers concepts of cost analysis, return on investment analysis, and operations and capital budgeting. May not be taken for credit in the School of Accountancy. Prerequisite: Act. 800 or equivalent.

815. 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. Prerequisites: graduate standing and Act. 510 (or equivalent), or permission of the School of Accountancy.

820. Managerial Accounting III. (3). Advanced study of the use of accounting information in financial policy decisions, profit planning and control, quantitative analysis of financial data and capital budgeting. Includes the application of selected quantitative methods of accounting. Prerequisites: graduate standing and Act. 320 (or equivalent), or permission of the School of Accountancy.

825. Managerial Accounting IV. (3). Advanced study of theoretical concepts underlying cost accounting, emphasizing the nature of business costs, establishing a conceptual framework for cost and managerial accounting and selected problem areas in cost determination and analysis. Prerequisites: graduate standing and Act. 320 (or equivalent), or permission of the School of Accountancy.

830. Taxation II. (3). A study of the federal tax law as it applies to corporations, partnerships, estates, trusts and gifts. Prerequisites: graduate standing and Act. 430 (or equivalent), or permission of the School of Accountancy.

835. Taxation III. (3). The application of research and planning techniques to federal tax law. Also examines selected topics in federal taxation. Prerequisites: graduate standing and Act. 830 (or equivalent), or permission of the School of Accountancy.

840. Auditing II. (3). An advanced study of auditing emphasizing EDP auditing sampling and ethics. Prerequisites: graduate standing and Act. 510 and 560 (or equivalent), or permission of the School of Accountancy.

860. Accounting Information Systems II. (3). A study of the concepts of information systems, their design and operation and the relationship of these concepts to the economic information requirements, information flows, decision criteria and control mechanisms in the business organization. Prerequisites: graduate standing and Act. 510 (or equivalent) or permission of the School of Accountancy.

880. Researching Contemporary Issues in Accounting. (3). An advanced seminar for oral discussions and written reports on matters of current interest in diverse areas of accounting. Develops the student's ability for independent research and the presentation and defense of findings. Prerequisites: graduate standing, completion of the accounting core and a course in statistics, or permission of the School of Accountancy.

890. Professional Seminar. (1). An orientation to the accounting profession with sessions covering a variety of technical and general topics. Many sessions are conducted by practitioners. MPA candidates must attend a specified number of sessions throughout their professional program but actual enrollment is for one semester. Graded S/U. Prerequisite: admission to MPA program or permission of the School of Accountancy.

891. Directed Study in Accounting. (1-3). Prerequisite: School of Accountancy consent.

899. Thesis Research. (1-3).

Aviation Management

Department of Marketing and Small Business

Lower-Division Courses

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

222. Ground School. (3). 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 majors. Graded Cr/NC only.

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 majors. Graded Cr/NC only. Prerequisite: Av. Mgt. 222.

Upper-Division Courses

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


420. General Aviation: Management and Marketing. (6). An overview of general aviation and its relations with the total 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.

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 determination, 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. 360.

422. Airline and Air Travel Management. (3). The organizational and financial structure of airline companies, their operating policies, marketing policies, equipment selection, personnel and public relations and a review of the pertinent federal and international regulations. It covers both air cargo and passenger operations. It 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. 360.

481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered Cr/NC only. Closed to graduate credit. Prerequisites: junior standing and 2.750 GPA in aviation management.

492. Internship in Aviation Management. (1-3). Offered Cr/NC only. Prerequisites: junior standing, 2.750 GPA in aviation management and departmental consent.

Courses for Graduate/Undergraduate Credit

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

750. Workshop in Aviation Management. (1-4). Prerequisite: junior standing.
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.

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

Upper-Division Courses


431. Legal Environment of Business. (3). An introduction to the legal environment in which businesses operate. The course considers the institutions and processes related to business law, and the major frameworks of private and public law, including contracts and commercial transactions, business organizations, business torts and crimes, and regulatory law. Ethical and social responsibility considerations are addressed as an integral aspect of legal regulation. Prerequisite: junior standing.

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.

436. Law of Business Associations. (3). Law of agency, partnerships and corporations. This course considers the organizational and relational aspects of both small, closely held businesses and large corporate enterprises. Prerequisite: junior standing.

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.

481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 GPA in business law.

492. Internship in Business Law. (1-3). Offered Cr/NCr only. Prerequisites: junior standing, 2.750 GPA in business law and departmental consent.

Courses for Graduate/Undergraduate Credit

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

750. Workshop in Business Law. (1-4). Prerequisite: junior standing.

Courses for Graduate Students Only

831. Legal Environment of Business. (3). An introduction to the legal environment within which the business system operates. Considers the functions of law in relation to the business system, the institutions and processes involved in the interaction between business, government and the major frameworks of private and public law. Emphasizes the realm of public law from a managerial perspective, including the ethical and social responsibility aspects of business behavior.

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent.

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

Lower-Division Course

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

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.


481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 GPA in decision sciences.

492. Internship in Decision Sciences. (1-3). Offered Cr/NCr only. Prerequisites: junior standing, 2.750 GPA in decision sciences and departmental consent.


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. Includes linear, integer, goal and dynamic programming, transportation models, network models, queuing theory and simulation. Prerequisite: DS 350.

651. Design of Operations Systems. (3). Gives an in-depth view of the long-term design aspects of operations systems. Includes 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.

652. Operations Planning Systems. (3). Gives an in-depth analysis of the short-term or operational aspects of goods- or service-producing systems. Includes forecasting methods, inventory control models, material requirements planning, aggregate planning and scheduling and current issues. Prerequisite: DS 350.

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

750. Workshop in Decision Sciences. (1-4). Prerequisite: junior standing.

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.

881. Intermediate Production Management. (3). Theory of productive systems, decision making under uncertainty and advanced methods of forecasting. 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.

871. Multivariate Statistical Methods. (3). A study of selected multivariate statistical methods used in support of modern decision making. Topics include: multivariate hypothesis testing, multiple regression, correlation, analysis of variance and covariance, and discriminant analysis. Prerequisite: Econ. 231 or Econ. 232.

872. Advanced Statistical Analysis. (3). Examines topics such as sample design, chi square, variance analysis and correlation, and regression analysis from conceptual and decision-making points of view. Prerequisite: DS 671.

874. Management Information Systems. (3). A study of the structure and the strategic organizational role of computer-based information systems in organizations. Coverage includes transaction processing and accounting systems, management reporting and executive information systems, decision support and expert systems, and workflow information systems. An information resource management
perspective emphasizes issues of building an
information architecture, data integration and
administration, and managing risk in information
systems development efforts.

875. Management Science. (3). Course provides
quantitative bases from which the student
can develop analytical abilities for use as
a decision maker. Areas of study include
mathematical programming, game theory forecasting,
queueing theory, and simulation. Prerequisite:
calculus.

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

884. Database Planning and Management. (3).
Prepares students to deal with issues in planning
and managing organization-wide integrated
databases. Emphasizes logical database
design and relational database implementation.
Includes SQL, assuring database integrity,
database conversion, database administration,
and data management for computer integrated
manufacturing. Prerequisite: DS 874 or instructor's consent.

890. Seminar in Special Topics. (1-3). Repeatable
with departmental consent.

891. Directed Studies. (1-6). Prerequisite:
departmental consent.

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.


Economics

Department of Economics

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

Econ. 201Q, 201Q, 202Q, 203H, 204H, 301, 302,
304, 605, 606, 800, 801, 802, 803, 804

Industrial organization and regulated
industries—Econ. 614, 615, 616, 617, 618, 619,
620, 621, 622, 623, 624

International trade and business—Econ. 231,
502, 703, 831

History and comparative economics—
Econ. 232, 233, 234, 235

Statistics and econometrics—Econ. 235,
236, 237, 238

Monetary and financial economics;
money and banking—Econ. 240, 241, 242,
243, 244, 245, 246, 247

Public finance—Econ. 248, 249, 250,
251, 252, 253, 254, 255

Labor and manpower economics—Econ.
256, 257, 258, 259, 260, 261, 262, 263, 264, 265

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

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

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

Lower-Division Courses

101G. The American Economy. (3). Division B
course/elective. An examination of the basic
economic forces that affect the American econ­
omy today, the historical evolution of these
dependent variables, and their impact on
public policy issues resulting from these forces. Not open to upper-division
students in the Barton School of Business. Not a substitute for Econ. 210Q and/or Econ. 220Q.

102Q. Consumer Economics. (3). An examina­
tion of the consumer's role in the economy.
The study of market organization and its
impact on consumers, a discussion of informa­
tion 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.

>201Q. Principles of Macro-Economics. (3).
Division B course/elective. An introduction to
determinants of national income, employment
and economic growth.

>202Q. Principles of Micro-Economics. (3).
Division B course/elective. An introduction to
to price and distribution analysis. Market struc­
ture and performance, contemporary issues
and public policy also are included. It is sug­
gested, but not recommended that Econ. 201Q
be taken prior to Econ. 220Q.

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 ana­
lytic framework for interpreting economic
events, trends, institutions and public policies.
Includes an analysis of resource use, price
and output determination, the level of national
income, and the general price level, business
fluctuations, the monetary and banking sys­
tem, international trade, economic growth and
development. Open only to honors students.

204H. The Economics of Public Issues. (3).
A seminar on selected topics of current interest in
economics that analyzes major economic prob­
lems of the day as a guide to making public
policy decisions. Included are the economics of
environmental control; externalities, public
goods, social costs and their effects in the mar­
et system; related problems such as urban
development and economic growth, inflation,
unemployment, concentration of economic
power, depletion of resources, pollution and
conservation. Open only to honors students.
Prerequisite: Econ. 203H.

An introduction to statistical inference, estima­
tion and hypothesis testing. Includes measures of
location and dispersion, probability, sampling
distributions, discrete and continuous proba­
bility functions, nonparametric methods, ele­
ments of Bayesian decision theory, linear regres­sion, and correlation and time series
analysis. Prerequisite: Math. 109, 111 or 112.

Upper-Division Courses

301. Intermediate Macroeconomics. (3).
Introduces the concepts of aggregate demand
and aggregate supply. After developing theore­
tical foundations for these, policy applications
are discussed, including such policy issues as
unemployment, inflation, government and inter­
national trade deficits and interest rates.
Prerequisites: Econ. 210Q, 220Q and junior
standing.

302. Intermediate Microeconomics. (3).
Theory of resource allocation by means of
prices and markets. Economic price, production,
cost, supply, demand and market structure are
discussed, as well as efficiency conditions in
consumption, production, distribution and
exchange. Prerequisites: Econ. 210Q, 220Q and
junior standing.

304. Managerial Economics. (3). Applies
microeconomic theory to the solution of
business problems. Prerequisites: Econ. 220Q and
junior standing.

340. Money and Banking. (3). A study of
money, credit, inflation and the structure and
role of the commercial banking and Federal
Reserve systems. Includes the relationship
between banks and other financial institutions
and the role of money in determining the level
of economic activity and prices. Prerequisites:
Econ. 210Q and junior standing.

481. Cooperative Education. (1-2).

491. Directed Study. (1-3). Individual study
of various aspects and problems of economics.
Repeatable for credit. Cr/NCr only. Prerequi­
sites: junior standing, departmental consent
and 2.750 GPA in economics.

Courses for Graduate/Undergraduate Credit

605. History of Economic Thought. (3).
A critical analysis of economic thought, the factors
that influenced this thought and its impact upon
the social and economic development of the
modern world. Prerequisites: Econ. 210Q, 220Q,
or 300, and junior standing.

614. Industrial Organization. (3). A study of
both competitive and noncompetitive market
structure, conduct and performance, with special
emphasis on related public policy, such as
antitrust. Prerequisites: Econ. 220Q and junior
standing.

615. Economics of Transportation. (3). A study of
economic characteristics of transportation
modes, problems and policies. Prerequisites: Econ. 210Q, 220Q, or 300 and junior standing.

616. Economics of Air Transportation. (3). A study of
economic characteristics of air transpor­
tation. Prerequisites: Econ. 210Q, 220Q, or
800, and junior standing.

617. Economics of Regulation. (3). A study of
the theory and practice of regulation. Includes
both the traditional regulation of public utili­
650. Monetary Problems and Policy. (3) An analysis of monetary problems and policy. Includes debt management policies and the structure of interest rates. Prerequisites: Econ. 201Q, 202Q, 340, or 800, and junior standing.

654. Public Finance. (3) An analysis of fiscal institutions and decision making in the public sector of the American economy; budget planning, the economics of taxation, and public policy. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.

655. Labor Economics. (3) An introduction to labor economics surveying both theoretical and empirical research in this field. Includes labor markets, wage determination and human capital theory. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.

657. Collective Bargaining and Wage Determination. (3) An examination of economic and legal aspects of collective bargaining. Focuses on the techniques and procedures used and the major issues and problems inherent in the bargaining process. Explores the manner in which wages are determined under various institutional relationships. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.

658. Work and Pay. (3) Investigation of the economic aspects of work and the workplace. Deals with the demographics of the labor force, methods of rewarding those who participate in the labor force and such topics as the quality of work life, worker alienation and the nature of work under capitalism. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.

661. Economic Insecurity. (3) Cross-listed as Ger. 663. Personal economic insecurity, such as unemployment, old age, health care, disability and erratic economic fluctuations. Includes costs and benefits of government programs to aid in meeting such insecurities. Prerequisites: Econ. 201Q, 202Q, or 800 or instructor's consent; junior standing.

671. Economic Growth and Development. (3) Survey of leading growth theories, emphasizing the processes of development and capital formation in developing and underdeveloped economies. Determinants of real income, resource allocation, investment criteria, balance of payments problems, national policies and related topics are analyzed within this framework. Prerequisite: Econ. 201Q, 202Q, or 800, and junior standing.

672. Introduction to International Economics and Business. (3) Cross-listed as Mgmt. 561. A survey of the economic foundations of international trade and investment. After a study of international trade theory and policy (the international economy), the operations of the multinational firm within that environment are evaluated. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.

674. International Finance. (3) Cross-listed as Fin. 625. The study of foreign exchange, balance of payments, the international monetary system and the world's money market. Includes a survey of international trade and specific operations of multinational firms. Also explores relevant aspects of international financial management through a series of case studies. Prerequisites: Fin. 340, Econ. 201Q, 202Q, or 800, and junior standing.

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. Uses statistical data extensively to illustrate and analyze present energy and natural resources situations and the trends for the future. Explores simple economic concepts and theories to interpret the facts and to assess the impact of various public policies on the use of energy and natural resources. Prerequisite: Econ. 201Q, 202Q, or 800, and junior standing.

688. Urban Economics. (3) A survey of the economic structure and problems of urban areas on both the microeconomic and macroeconomic levels. Stresses the application of regional economic analysis in the study of urban areas as economic regions. Prerequisites: Econ. 201Q and 202Q, or Econ. 800, and junior standing.

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

702. Mathematical Methods in Economics. (3) Introduces mathematical tools that are especially useful in economics, econometrics, and finance. Includes a review of differential and integral calculus, an introduction to matrix algebra and various constrained optimization and economic modeling techniques. Emphasizes economic applications and modeling. Prerequisites: Econ. 201Q, 202Q, or 800, and Math. 144 or equivalent and junior standing.

731. Intermediate Business Statistics. (3) A study of the regression model with extensions, analysis of variance models, and other related statistical methods. Emphasizes application to business and economic data. Prerequisites: Econ. 231 and junior standing.

750. Workshop in Economics. (1-4). Prerequisite: junior standing.

760. Local Government Finance. (3). Cross-listed as Pol. S. 760. An analysis of state and local government expenditure and revenue systems, with an introduction to state and local financial administration. Prerequisites: Econ. 202Q and a course in statistics or instructor's consent.

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.

801. Macroeconomic Analysis. (3). An intensive analysis of contemporary literature and problems of national income analysis. Prerequisite: Econ. 301. Prerequisite or corequisite: Econ. 702 or equivalent.

802. Microeconomic Analysis. (3). An intensive analysis of contemporary literature and problems in the areas of production, pricing and distribution. Prerequisites: Econ. 302 or 804 or equivalent, Econ. 702.

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.

804. Managerial Economics. (3). A survey of theoretical and analytical tools of economic analysis that are useful in decision making by managers. Not for graduate credit in the MA program in economics. Prerequisites: Econ. 201Q, 202Q or 800 and one course in calculus.


830. Statistical Methods for Business. (3). An examination of statistical concepts and methods applicable to business decision making. Includes 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. 231 or equivalent. Not for graduate credit in the MA program in economics. Prerequisite: calculus.

831. Introduction to Econometrics. (3). Analysis of time series, multiple regression, multiple partial correlation, analysis of variance and introduction to econometric techniques. Prerequisites: Econ. 731 and 702 or equivalent.

840. Seminar in Monetary Theory. (3). An examination of neoclassical and contemporary monetary theories. Includes an analysis and an evaluation of current monetary problems. Repeatable for credit with departmental consent. Prerequisites: Econ 200Q and 340.

841. Money and Capital Markets. (3). Theoret-
853. Seminar in Public Finance. (3). An analysis of speculative securities and trading. Discusses speculative markets and trading in the American and foreign economies. Explores selected topics of current and permanent importance. Repeatable for credit with departmental consent. Prerequisite: Econ. 201Q, 202Q, or 800.

856. Seminar in Contemporary Labor Issues. (3). An intensive analysis of contemporary 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: instructor's consent.

870. Seminar in International Trade. (3). Cross-listed as Fin. 820. A seminar in theoretical concepts and contemporary selected issues of international economics and finance. Includes foreign exchange markets, the Eurodollar market, Arab oil dollars in the international monetary system, transference of inflation between countries, developments in the common markets, etc. Prerequisite: Econ. 201 and 202.

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

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.

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


896. Thesis. (1-2).

Entrepreneurship

Department of Marketing and Small Business

Lower-Division Course

160Q. Introduction to Entrepreneurship. (3). Division B course/elective. An introductory course 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 is given to the elementary concepts of planning, financing, starting and managing a new business.

Upper-Division Courses

361. Venture Creation. (3). Helps students explore various ways to own a business including starting a new business, buying a franchise, or buying an existing business. Students identify a product or service need and develop a business plan to start a profitable business to meet the needs identified. This introduction to business planning emphasizes student self-assessment, idea generation, and market planning. Students create a formal, written business plan that can be financed. Prerequisites: Junior standing.

465. The Management of Growth. (3). Emphasizes the techniques of managing a business during early growth and development, from post start-up to efficient ongoing operations. Covers (1) the transition from entrepreneurial to professional management; (2) risk and the entrepreneurial process; (3) advanced marketing techniques; (4) record keeping systems and procedures; (5) strategies for continued innovation, organizational support for creativity, and opportunity identification; (6) finance; and (7) harvesting the firm. Extensive case analysis and class writing are required. Prerequisites: Acc. 210-220, Mkt. 300, Mgmt. 360, and junior standing.

481. Cooperative Education. (1-2).

491. Independent Study in Entrepreneurship. (1-5). Offered Cr/Ncr only. Closed to graduate credit. Prerequisites: junior standing and 2,750 GPA in entrepreneurship courses.

492. Internship in Entrepreneurship. (1-3). Offered Cr/Ncr only. Prerequisites: junior standing, 2,750 GPA in entrepreneurship and departmental consent.

Courses for Graduate/Undergraduate Credit

560. Consulting with Small Enterprise. (3). Gives hands-on experience consulting with an existing small business. Students 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 gains 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. Prerequisites: Mkt. 300, Fin. 340, Mgmt. 360, senior standing. Preferred Entre. 465 also be taken.

668. Feasibility Analysis. (3). Advanced course in feasibility research for startups, new product development, or expansion of existing business organizations. Special attention is given to entrepreneurial finance including sources of seed money and on-going financing, private placement stock, initial public offerings, business valuation, and financial planning. Other content areas include environmental analysis, insurable and investment risk management, site location analysis, planning exit strategies, and business negotiation. Students develop an advanced business plan and work on special projects. Prerequisite: Entre. 361 and Entre. 465.

690. Special Topics in Entrepreneurship. (3). Advanced course with in-depth discussion of emerging topics within the field of entrepreneurship. Topics rotate, allowing the student to repeat the class one time. Prerequisite: Entre. 668, 465, senior standing.

750. Workshop in Entrepreneurship. (1-4). Prerequisite: junior standing.

Courses for Graduate Students Only

868. New Venture Feasibility Seminar. (3). Focuses on directing students in the appropriate methods of selecting financial sources and in raising seed capital through the preparation of a comprehensive feasibility study. Covers (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: Accr. 800 or its equivalent, or approval of the instructor. Not open to students with credit in Entre. 668.

869. Entrepreneurship and Innovation Within Organizations. (3). Addresses trends, current status and success factors in the area of innovation and entrepreneurship within organizations. Principals discussed are applicable to any organization, large or small, private or public, by those people who wish to create change and innovate within the existing structure. Covers (1) foundations of entrepreneurship; (2) barriers to change; (3) entrepreneurial characteristics of individuals; (4) creative thinking and focused ideation methods; (5) "intrapreneurship" - the need for it, definition, methods, favorable environment, and rewards; (6) examples of intrapreneurship; (7) entrepreneurial strategies, policies and practices for organizations; and (8) the entrepreneurial society, a growing way of life. Prerequisites: open to all students fully admitted to graduate programs in the Barton School of Business and instructor's approval.

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent.

891. Directed Studies. (1-5). Prerequisite: departmental consent.

Finance

Department of Finance, Real Estate, and Decision Sciences

Lower-Division Courses

140Q. Personal Finance. (3). Division B course/elective. Management of the cash flows experienced by individuals and families. Analysis of alternative strategies to meet individual financial goals through various investment media with emphasis given to risks and returns. Exposes the student to a set of tools that can be applied in personal financial management to provide a flexible and relevant framework for future decision making.
190. Selected Topics. (1-3). Repeatable with departmental consent.

Upper-Division Courses

330. 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 the insurance business as well as the marketing and regulation of both private and governmental insurance. Prerequisite: Junior standing.


432. Contemporary Issues in Banking. (3). A survey of current issues facing the U.S. commercial banking system. Course content varies according to the timeliness of various issues. 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.

440. Financial Management II. (3). A study of long-term financing decisions and financial planning. Also includes working capital management, mergers and acquisitions, and international financial management. Prerequisites: Fin. 340.


491. Independent Study. (1-6). Offered CR/NCR only. Closed to graduate credit. Prerequisites: Junior standing and 2.750 GPA in finance.

492. Internship in Finance. (1-3). Offered CR/NCR only. Prerequisites: Junior standing, 2.750 GPA in finance and departmental consent.

Courses for Graduate/Undergraduate Credit


612. Capital Budgeting. (3). A study of the planning and control of capital expenditures. Explores the use of various decision rules for making accept/reject decisions on projects. Includes the study of project cash flows and analysis, mutually exclusive projects, and the choice of the discount rate. Prerequisite: Fin. 340.


621. Security Analysis and Portfolio Analysis. (3). Comprehensive study of methods of analyzing major types of securities. Market behavior analysis also is made. Explores the formulation of investment objectives, the design of portfolios for classes of institutional and individual investors and portfolio theory. Prerequisites: Fin. 641 and junior standing.

622. Futures and Options Markets. (3). Presents an overview of the futures and options markets. Basic theoretical concepts as well as the practical issues of hedging and speculating in these markets are discussed.

625. International Financial Management. (3). Cross-listed as Econ. 674. The study of foreign exchange, balance of payments, the international monetary system and the world's money and capital markets and their relationships with the financial operations of multinational firms. Also explores relevant aspects of international financial management through a series of case studies. Prerequisites: Fin. 340, Econ. 202C and junior standing.

630. Financial Institutions. (3). A study of the management, structure, regulation, and operations of firms in the financial services industry and the markets in which they operate. Includes in-depth analysis of commercial banks, savings and loans, credit unions, mutual funds, insurance companies, investment companies, and other firms in this industry. Prerequisite: Fin. 340.

631. Money and Capital Markets. (3). A study of domestic and international financial markets, instruments, and institutions and the determinants of the general level and structure of interest rates and security prices. Management of interest rates and portfolio risk using a variety of techniques is also covered in detail. Prerequisite: Fin. 340.

632. Commercial Bank Management. (3). A study of bank asset and liability management. Also explores the internal organization of commercial banks, current problems and recent innovations in commercial banking. Prerequisites: Fin. 643 and junior standing.

660. Cases in Finance. (3). An exploration of the problems and operations for which the financial officer is responsible, emphasizing contemporary aspects of financial analysis. Prerequisites: Fin. 340, six hours of accounting or departmental consent and junior standing.

690. Seminar in Selected Topics. (1-6). Repeatable with departmental consent. Prerequisite: Junior standing.

750. Workshop in Finance. (1-4). Prerequisite: Junior standing.

Courses for Graduate Students Only

810. Short-Term Financial Management. (3). Provides state-of-the-art information in short-term financial management. Discusses how cash moves across international borders and within foreign countries and the influence of electronic communications on short-term financial management. Prerequisite: Fin. 840 or equivalent.

812. Capital Budgeting. (3). A study of the organization and operation of the capital budgeting system. Explores problems in partial decentralization and in comparability of estimates of funds flow. Includes contemporary methods of treating uncertainties and constraints and the application of programming techniques. Also explains the determination of appropriate discount rates. Prerequisite: Fin. 840 or equivalent.

820. Seminar in International Trade and Finance. (3). Cross-listed as Econ 670. A seminar in theoretical concepts and contemporary issues of international economics and finance. Includes foreign exchange markets, the Eurodollar market, Arab oil dollars in the international monetary system, transfer of inflation between countries, developments in the common markets. Prerequisite: Fin. 618 or Econ. 674 or instructor's consent.

821. Investment Analysis and Portfolio Management. (3). Study of the basic theory and practice of security valuation and investment management. Includes security and portfolio analysis, selection of investment media and measurement of performance. Not available to students with credit in Fin. 641 or equivalent. Prerequisites: Fin. 840 and Econ. 830.

822. Risk Management with Options and Futures. (3). Discusses the use of futures and options contracts in managing some of the risks associated with business and investment. Theoretical issues are discussed to provide a basis for understanding the practical uses of these securities. Prerequisite: Fin. 840 or equivalent.

830. Financial Institutions and Markets. (3). Analyzes the management and operations of financial institutions. Study the competitive money and capital markets in which they operate. Risk management in the financial sector is emphasized in detail using a variety of techniques. Prerequisite: Fin. 840 or equivalent.

840. Financial Systems. (3). An intensive analytical introduction to finance from the management viewpoint, including the theory of financial management, the financial institutional structure and an analysis of a variety of practical problems of business finance. Prerequisite: Acc. 800 or equivalent.

850. Managerial Finance. (3). Provides knowledge and tools to make informed investment and financing decisions. Topics include capital markets, advanced capital budgeting, decision making under uncertainty, asset pricing models, contingent claims models, capital structure, dividend policy, mergers, restructuring and corporate control, and exchange rate systems and international finance. Prerequisites: Fin. 840 or equivalent.

860. Cases in Financial Management and Investments. (3). An integrated treatment of

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent.

891. Directed Studies. (1-6). Prerequisite: departmental consent.

893. Special Project in Finance. (1-4). A special project including original case research supervised by the instructor or field research. Prerequisite: approval of the MS committee. Open only to MS in administration degree candidates.


Human Resource Management
Department of Management

Lower-Division Course

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

Upper-Division Courses


466. Fundamentals of Human Resource Management. (3). An analysis of the functions of human resource management, including human resource planning, recruiting, selection, appraisal of performance, training, compensation systems, and employee/labor relations. Relevant societal, economic, and regulatory influences on human resource management are covered. Prerequisites: Mgmt 360 or concurrent enrollment and junior standing.

481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered Cr/NC only. Closed to graduate credit. Prerequisites: junior standing and 2.750 GPA in resource management courses.

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

Courses for Graduate/Undergraduate Credit

646. Labor Relations. (3). Presents the philosophy underlying labor legislation and the function of collective bargaining in labor-management relationships. Prerequisite: Junior standing.

666. Human Resource Selection. (3). Analysis of all phases of the election process as implemented in private and public sector organizations. Topics include an analysis of the impact of federal and state anti-discrimination legislation on selection practices as well as the human resource planning, recruiting, job analysis, selection techniques, including testing and interviewing. Also validation of selection techniques. Prerequisites: HRM 466 or departmental consent and junior standing.

668. Compensation. (3). Approaches to compensation processes in organizations. Discusses job evaluation techniques, wage level and wage structure determination, individual performance analysis, individual wage rate decisions, incentive plans, and benefits. Considers the legal constraints on compensation practices. Prerequisite: HRM 466 or consent of instructor.

669. Training and Development. (3). Analysis of the training and development function as applied in private and public sector organizations. Consideration is given to the role of training and development in today's business environment, needs assessment, learning objectives, learning theory, instructional methods and techniques, and evaluation of training effectiveness. Prerequisites: HRM 466 or departmental consent and junior standing.

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: HRM 466 or departmental consent.

750. Workshop in Human Resources. (1-4). Prerequisite: junior standing.

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 human resources and a review of significant literature. The direction of the course could be determined by the interests of the class. Prerequisite: HRM 466.

868. Wage and Salary Administration. (3). A study of wage evaluation and other procedures that lead to the development of a sound wage and salary structure. Prerequisite: HRM 466 or instructor's consent

890. Seminar in Special Topics. (1-5). Repeatable with departmental consent.

891. Directed Studies. (1-5). Repeatable with departmental consent.


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, education and licensure, professional ethics, authorized and unauthorized practice of law and an introduction to paralegal skills. Prerequisite: B. Law 150Q, concurrent enrollment or departmental consent.

231A. Legal Research and Writing I. (3). An introduction to the tools and techniques of legal research, with emphasis on the basic analytical skills. 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.

231B. Legal Research and Writing II. (3). A continuation of Legal 231A. Covers research in

232. Legal Aspects of Business Organizations. (3). The law of business organizations with emphasis on the practical aspects related to formation of operation 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.

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

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.

235. Law Office Management and Technology. (3). The application of modern concepts of organization, management and systems technology to the law office. Emphasizes the use of systems approaches and the proper use of non-lawyers in the handling of all administrative functions and routine legal matters. Prerequisite: admission to the Legal Assistant Program or departmental consent.

236. Litigation II. (3). A continuation of Litigation I. Emphasizes 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.

237. Family Law. (3). An introduction to family law including the role of a lawyer as counselor. Emphasizes the practice aspects related to divorce, separation, custody, support, adoption and guardianship matters. Prerequisite: admission to the Legal Assistant Program or departmental consent.

238. Legal Assistant Internship. (3). Internship training in a law office, corporate law department or government. Offered Cr/NC only. Prerequisite: 12 hours of legal specialty courses and internship committee approval.

239. Special Topics. (1-3). Repeatable with departmental consent. Prerequisite: admission to the Legal Assistant Program or departmental consent.

240. Substantive Law: Torts. (3). An introduction to the substantive law which is involved in personal injury litigation. Special emphasis is placed on analysis of cases and applying legal principles to facts. Prerequisite: admission to the Legal Assistant Program or departmental consent.

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.

243. Property Law. (3). An introduction to the principles of property law with emphasis on the practice aspects of real estate transactions. Prerequisite: admission to the Legal Assistant Program or departmental consent.

244. Legal Assistant Computer Skills. (3). An introduction to the utilization of micromachines by legal assistants. Emphasizes word processing, litigation support and computer-aided research with Lexis or Westlaw. Prerequisite: Legal 231A or 233 or departmental consent.

Management

Department of Management

Lower-Division Courses

101G. Introduction to Business. (3), Division B course/elective. 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 environments.

120. Legal Assistant Computer Skills. (3). An introduction to the utilization of microcomputers by legal assistants. Emphasizes word processing, litigation support and computer-aided research with Lexis or Westlaw. Prerequisite: Legal 231A or 233 or departmental consent.

101G. Cooperative Education. (1-2).

481. Independent Study. (1-5). Offered Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 GPA in management.

492. Internship in Management. (1-3). Offered Cr/NCr only. Prerequisites: junior standing, 2.750 GPA in management and departmental consent.

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, theory and policy (the international economy), it explores the operations of the multinational firm within that environment. Prerequisite: Econ 202Q and junior standing.

663. Organizational Interactions. (3). A dynamic experimental study of interpersonal, intragroup and interorganizational interactions. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

665. Organizational Development. (3). Planned organizational change. Emphasizes diagnosis of problems and discusses the structural, human resources management, and strategic interventions that can be implemented to increase effectiveness at the individual, team, or system-wide levels of an organization. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

667. Organizational Structure and Design. (3). Study of how work and workers can be structured to best accomplish the goals of an organization. Explores the interplay of design, integration, technology, strategy, and the environment, and appraises frameworks that effectively promote organization growth, market responsiveness, innovation, and global competitiveness. Prerequisites: junior standing and Mgmt. 360.

680. Decision Making. (3). Cross-listed as P. Adm. 730. A study of the theories of decision making with attention to the factors of creativity, the quest for subjective certainty, rationality, cognitive inhibitors, problem identification, evaluation of alternatives, applications of qualitative methods to decision processes and decision implementation. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

681. Strategic Management. (3). An analysis of business problems from a strategic management perspective. A capstone course which integrates the functional areas of business, including management, marketing, finance, accounting, and production. Discusses both domestic and international policy issues, large and small firms, and various sources of competitive advantage. Prerequisites: DS 350, Fin. 340, Mkt. 300, Mgmt. 360, and senior standing.

683. International Management. (3). A study of management concepts and practices applicable to business problems in an international setting. Examines a wide range of problems associated with business operations across national boundaries. Discusses cultural differences, language barriers, nationalism, protectionism, technology transfer, and trade policies. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

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

750. Workshop in Management. (1-4). Prerequisite: junior standing.

Courses for Graduate Students Only

803. Business Decision-Making and Analysis. (3). A study of business decision-making and problem-solving methodologies including problem definition, research design, data-gathering techniques, analytical techniques, reporting strategies, and communication issues. Prerequisite: Econ 231 or equivalent.

812. Introduction to Total Quality Management. (3). Cross-listed as Mk t. 812. Introduces the philosophy of quality improvement and compares/contrasts these views with traditional management thought. Also introduces the basic components of the quality improvement process. Includes application exercises in quality improvement techniques and experience with team concept. Prerequisite: instructor consent.

830. Socio-Legal Environment of Business. (3). An examination of the economic, political, social and legal environment in which business operates. Considers the philosophic foundations of management theory, human relations, group dynamics in light of the diverse economic, political, social and cultural dimensions of the environment that exist in both developed and developing areas of the world.

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

862. Organizational Behavior. (3). The study of individual and group behavior as it affects organizational functioning. Concepts such as motivation, personality, interpersonal relations, upward management, conflict management, and leadership are applied to organizational settings with emphasis on analysis and action-planning. Prerequisite: Mgmt. 860 or departmental consent.

865. Communication. (3). Cross-listed as...
Comm. 865. An analysis of communication models emphasizing their applications to communication problems in organizations. Explores social-psychological processes underlying persuasion in interpersonal relations and through the mass media. Critically analyzes communication systems and techniques within formal organizations. Prerequisite: Mgmt. 860 or departmental consent.

866. Organizational Conflict and Stress. (3). Studies in flexibility and rigidity. Reviews 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.

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

885. Advanced Strategic Management. (3). An analysis of business problems from a strategic perspective. Builds on prior coursework to focus on a firm's ability to develop a sustainable competitive advantage. Focuses on a broad range of manufacturing and service, global and domestic, entrepreneurial and mature issues. Prerequisite: be taken during last semester of student's program, or departmental consent.

886. Seminar in Research Methodology. (3). A study of concepts and procedures in the design and performance of research.

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent.

891. Directed Studies. (1-5). Prerequisite: departmental consent.

893. Special Project in Management. (1-4). An analysis of the unique marketing channel problems facing the services marketing, including site selection, store design and department layout, merchandise management, sales promotion and customer services. Also considers the broad issues of modern marketing and financial strategies as they affect retail distribution and clarifies new influences at work in the retailing environment. Prerequisite: Mkt. 300 or departmental consent.

405. Consumer Behavior. (3). A study of a variety of concepts in the behavioral sciences related to specific topics in consumer behavior, including mass communications, reference groups and sociological, psychological and economic aspects of consumer behavior. Prerequisites: Mkt. 300 and junior standing.

407. Marketing for Service and Nonprofit Organizations. (3). A study of the unique marketing challenges faced by service and non-profit organizations. Focuses on marketing concepts and appropriate marketing programs from the perspective of these organizations. Prerequisites: Mkt. 300 and junior status.

481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered for Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2,750 GPA in marketing.

492. Internship in Marketing. (1-3). Offered for Cr/NCr only. Prerequisites: junior standing, 2,750 GPA in marketing and departmental consent.

Courses for Graduate/Undergraduate Credit

601. International Marketing. (3). Problems and procedures of marketing in foreign countries. Includes the effects of foreign cultures and marketing systems on the design of marketing programs. Prerequisites: Mkt. 300 and junior standing.

604. Distribution Management. (3). A study of all areas involved with the distribution of a firm's products or services. Focuses 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.

606. New Product Marketing. (3). Addresses identifying, evaluating, developing and commercializing new products within both smaller and larger firms. Explores the role of the product/brand manager, a person who often acts as an internal entrepreneur. Prerequisites: Mkt. 300, 403 and 405.

607. Promotion Management. (3). An analysis of all issues involved with the promotion of an organization and its products or services. Deals with 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.

800. Marketing Systems. (3). An intensive analytical introduction to the combination of institutions that comprise the overall marketing system. Also presents the marketing function as a major subsystem within the individual business firm.

801. Marketing Management. (3). Develop an understanding of the difference between a sales/marketing department and a marketing orientation. Emphasizes the integration of a marketing orientation throughout the modern organization. Prerequisite: Mkt. 80 or equivalent.

802. Marketing Strategy. (3). Integration of long-range marketing and corporate policies. Includes budgetary control and the evaluation of the effectiveness of marketing systems. Also explores the organization of the marketing department and its relation to the total organization. Prerequisite: Mkt. 80 or departmental consent.

803. Marketing Analysis. (3). The application of the scientific method to the solution of marketing problems. Prerequisite: Mkt. 80 or equivalent.

805. Consumer Decision Processes. (3). An examination of different aspects of the behavior of consumers and of the factors that help explain their behavior. Includes an analysis of current concepts and models. Prerequisite: Mkt. 80 or departmental consent.

807. Services and Nonprofit Marketing. (3). Examines the characteristics of commercial and nonprofit services that pose unique marketing challenges for these types of organizations. Prerequisite: Mkt. 80 or equivalent.

812. Introduction to Total Quality Manag-
ment. (3). Cross-listed as Mgmt. 812. Introduce the philosophy of quality improvement and compare/contrast these views with traditional management thought. Also introduces the basic components of the quality improvement process. Includes application exercises in quality improvement techniques and experience with team concept. Prerequisite: instructor consent.

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent.

891. Directed Studies. (1-5). Prerequisite: departmental consent.

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.


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

Lower-Division Course
190. Selected Topics. (1-3). Repeatable with departmental consent.

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.

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

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.

481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 GPA in real estate courses.

492. Internship in Real Estate. (1-3). Offered Cr/NCr only. Prerequisites: junior standing, 2.750 GPA in real estate and departmental consent.

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.


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

619. Urban Land Development. (3). A hands-on course to familiarize students with all aspects of land development, including supply and demand analysis, site selection, feasibility analysis, development financing, cash-flow budgeting and marketing strategies. Prerequisite: RE 310 or 611 or 618.

750. Workshop in Real Estate. (1-4). Prerequisite: junior standing.

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. Approaches detailed comprehensive case studies with contemporary analytical techniques. Prerequisite: RE 310, 614 and 618.

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent.

891. Directed Studies. (1-5). Prerequisite: departmental consent.

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.

College of Education

James L. Carroll, PhD, Dean

The primary purpose of the College of Education is to develop skilled and competent teachers, administrators, counselors, school psychologists, speech and language clinicians, and other specialists for our schools. College faculty also contribute to the improvement of education at local, state, and national levels through their teaching, research, and professional service.

Curricula listed in the following sections give students an opportunity for systematic study. These programs enable students to develop (1) an understanding of education's place in a democratic society, (2) a philosophy of education consistent with functioning in that society, and (3) a conceptual base to use in relating theory to practice, which includes knowledge of human growth and development and principles of human learning.

The College of Education is accredited by all appropriate agencies, including the Kansas State Board of Education (see the inside front cover of this Catalog). The college recommends appropriate teacher's certificates be awarded to those who complete requirements established by the board.

Degrees Offered

Undergraduate

The college offers programs leading to the bachelor's degree and/or to state teacher certification at the elementary and secondary levels. The State Board of Education regulates standards for all teaching certificates; curricula offered by the college are altered as needed to meet changes in these requirements.

Programs in industrial technology and physical education and recreation provide nonteaching routes to the bachelor's degree.

A student may obtain a second bachelor's degree in the College of Education. This requires (1) admission to the College of Education, (2) completion of a minimum of 30 credit hours in a program not required for the first bachelor's degree and (3) completion of all the requirements for graduation from the College of Education.

Graduate

The College of Education offers a number of graduate programs. The Master of Arts (MA) and Doctor of Philosophy (PhD) degrees are offered in speech language pathology/audiology, and the Doctor of Education (EdD) degree is offered in educational administration. Programs in school psychology and educational administration lead to the Specialist in Education (EdS) degree. Master of Education (MED) programs are available in counseling, educational administration, educational psychology, curriculum and instruction, physical education, and special education.

Graduate courses are offered to meet state requirements for certification or endorsement as audiologists, early childhood teachers, educational administrators, gifted teachers, middle-level teachers, reading specialists, school counselors, school psychologists, special education teachers, speech and language pathologists, and supervisory personnel. Master's programs in curriculum and instruction and educational psychology also have been designed for teacher practitioners who wish to enhance their teaching skills. For specific graduate programs see the Wichita State University Graduate Bulletin.

Policies

Admission to the College of Education

Pre-program Students

Degree-bound students who select education as a major will enter the college as pre-program students. To remain in the pre-program category in the College of Education, a student must maintain at least a 2.00 grade point average. For more information on general University admission requirements, see the Admission to Wichita State section of the Catalog.

Full Admission

Students who request full admission to the College of Education must satisfy the following admission requirements:

1. Complete 24 credit hours with an overall grade point average of at least 2.500 overall and at WSU.
2. The 24 hours must include English 101 and 102 with a grade of C or above, Communication 111 with a grade of C or above, and College Algebra with a C or above or their equivalents.

Any student denied admission to the college may appeal by filing a written petition with the Standards Committee of the College of Education.

Admission to Programs in Teacher Education

Students are advised on the basis of the program (checksheet) in effect when they are admitted into teacher education rather than the program (checksheet) in effect when they began their college or university work.

Admission to the College of Education does not mean that a student is accepted into one of the certification programs in teacher education. Students must satisfy the following requirements to be admitted as a candidate for a Kansas teacher's certificate:

1. Pass CI 301 with a grade of B or better and 302 which involves
   (a) Competency tests in reading, writing, and mathematics,
   (b) Beginning field experience requirements.
2. Complete 50 semester hours of college/university credit.
3. Attain a minimum grade point average of 2.500 overall.
4. Earn a grade of C or better in English 101 and 102, Communication 111, and College Algebra.

Special Note: Students entering as freshmen in the 1995 Fall Semester must satisfy the following requirements to be admitted as a candidate for a Kansas teacher's certificate:

1. Pass CI 301 with a grade of B or better and 302 which involves
   (a) Competency tests in reading, writing, and mathematics
   (b) Beginning field experience requirements.
2. Complete 35 hours of General Education Courses.
3. Attain a minimum grade point average of 2.75 overall.
4. Earn a grade of C or better in English 101 and 102, Communication 111, and College Algebra.
5. Complete a second course in mathematics above College Algebra.

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 3.0 or better may petition their department chairperson for permission to enroll in excess hours.

Probation and Dismissal

Pre-program Students
Pre-program students are required to maintain at least a 2.00 (C) grade point average. Students are placed on academic probation whenever they have attempted six hours and their WSU grade point average falls below 2.00. 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 and achieve a 2.00 grade point average on work at Wichita State before probation is removed.

Students on probation normally are limited to a maximum load of 12 hours per semester, although exceptions may be made by the Dean of the College of Education. The limitation of 12 hours also applies to students who have declared a transition semester.

All pre-program students who have accumulated 12 attempted credit hours after being placed on probation and who do not have a 2.00 grade point average for the most recent semester or Summer Session will be academically dismissed. Students who have been dismissed may seek readmission to the College of Education by appealing, in writing, for an exception to the regulations.

Full Admission Students

Students in the College of Education are placed on probation at the conclusion of any semester in which their overall WSU grade point average falls below 2.500. These students will be continued on probation if their grade point average for the semester on probation is at least 2.500. Students who fail to earn at least a 2.500 for any semester on probation may be dismissed for poor scholarship. Students on probation are limited to a maximum enrollment of 12 hours per semester.

Students may not be academically dismissed at the end of a semester unless they began that semester on academic probation. Also, students may not be academically dismissed from the College of Education before they have attempted a total of 12 semester hours at WSU after being placed on probation.

Students dismissed for poor scholarship may reenroll only with the special permission of the Standards 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 Standards Committee of the College of Education and then forwarded to the University’s Committee on Admissions and Exceptions for final action.

Academic counseling and advanced planning require careful attention and time. Thus, students should secure their recent academic records, complete their petition, and have their readmission 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 reasons for their failure and presentation of evidence for probable future success.

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 experiences that 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 appropriate academic department in the college. To enroll in the program or for more information, students should contact the Cooperative Education coordinator.

Requirements for Graduation

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 study carefully the requirements for their particular area of study.

Under Kansas Department of Education policies students are expected to complete all program requirements in effect at the time they are admitted into teacher education. Students transferring to the College of Education will be advised on the basis of the program (checksheets) in effect when they are admitted into teacher education rather than the program (checksheets) in effect when they began their college or university work.

For graduation from the College of Education, students must satisfactorily complete all program requirements, complete a minimum of 124 semester hours of credit, have at least a 2.500 grade point average in the major field, and must have at least a 2.500 overall grade point average.

Requirements for Certification

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. A grade of C or better in student teaching is necessary to receive a recommendation for a teaching certificate.

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.)

General Education

Beginning Fall 1994

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 courses (12 hours) to be completed with a grade of C or better.
   Written communication (6 hours)
   Oral communication (3 hours)
   Mathematics 111, College Algebra (3 hours)

II. Distribution requirements
   A. At least one Introductory Course* in Fine Arts: art history, dance (history), musicology-composition, theater, or an Issues and Perspectives course**.
   B. At least one Introductory Course* from two different Humanities disciplines: communication (non-basic skills), English (non-basic skills), history, linguistics, modern and classical languages and literature, philosophy, religion, women’s studies, or an Issues and Perspectives course**.
   C. At least one Introductory Course* from two different Social and
Behavioral Science disciplines: anthropology, economics, geography, minority studies, political science, psychology, sociology, or an Issues and Perspectives course**. College of Education students must choose Psych. 111Q as one of the Introductory Courses from this division.

D. At least one Introductory Course* from two different Mathematics/ Natural Sciences disciplines: biology, chemistry, computer science, geology, mathematics/statistics (non-basic skills), physics, or an Issues and Perspectives course**. One must be biology, chemistry, geology, or physics.

E. At least one Further Study Course in the same discipline as the Introductory Course taken in Fine Arts or the Humanities or an Issues and Perspectives** course.

F. At least one Further Study Course in the same discipline as the Introductory Course taken in Social and Behavioral Sciences or an Issues and Perspectives** course.

G. At least one Further Study Course in the same discipline as the Introductory Course taken in Natural Sciences and Mathematics or an Issues and Perspectives** course.

* No courses in the student's major discipline may be taken as Introductory Courses.
** At least one but not more than two Issues and Perspectives courses must be selected. No Issues and Perspectives course in the student's major discipline may be taken.

For students who entered the University prior to the Fall Semester of 1994, courses in the Undergraduate Catalog and the Schedule of Courses identified by a G or Q suffix qualify for General Education credit. These General Education requirements are stipulated in previous Undergraduate Catalog.

College of Education Specific Requirements
In addition to or as part of the University General Education requirements listed above, students applying for a degree from the College of Education or for teacher certification must meet the following requirements:

a. a course in literature
b. Psychology 111

Professional Education
Professional education requirements in areas of specialization and 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, courses must be taken in two different departments. At least six hours of psychology are required.

II. Professional Education
Preprofessional Block—
Course Hrs.
CI 301, Introduction to Professional Education 2
CI 302, Field Experiences/Preprofessional Block 1
Block I
CESP 334, Growth and Development 2
CI 430, Social/Multicultural Education 3
CI 320, Introduction to Exceptional Child 2
CI 311, Field Experiences/Block I 1

In addition to the general education requirements, the professional education sequence, students must complete the requirements for the major. Students should work closely with a faculty adviser in the College of Education to be sure they meet certification and degree requirements. A checklist of requirements is available in the College of Education.

Elementary Education
I. General Education
Students majoring in elementary education should meet all requirements in the General Education program. In addition, three social science courses and Psychology 111 are required in Division B. In Division C, both a biological science and a physical science are required (one must include a lab), along with Math. 501.

II. Professional Education
Preprofessional Block—
Course Hrs.
CI 301, Introduction to Professional Education 2
CI 302, Field Experience/Preprofessional Block 1
Block I
CESP 334, Growth and Development 2
CI 430, Social/Multicultural Education 3
CI 320, Introduction to Exceptional Child 2
CI 311, Field Experience/Block I 1

In addition to the general education requirements, the professional education sequence, students majoring in elementary education must fulfill the teaching specialty emphasis of the elementary program. Students should work closely with a faculty adviser in the College of Education to be sure they meet certification and degree requirements. A checklist of requirements is available from the College of Education.

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. 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 that field. Special arrangements have to be made for the student to qualify 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
The following courses are required:
Preprofessional Block—
Course Hrs.
CI 302, Introduction to Professional Education 2
CI 301, Field Experience/Preprofessional Block 1

For majors in foreign language, math, science, social studies, English
Block I
Course Hrs.
CESP 334, Growth and Development 2
CI 430, Social/Multicultural Education 3
CI 320, Introduction to Exceptional Child 2
CI 311, Field Experience/Block I 1

Block II
CESP 433, Learning and Evaluation 3
CI 328, Curriculum, Instruction and Management 5
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 to be sure they meet certification requirements. A check sheet of requirements for each teaching field is available from 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 minor will not qualify a student to teach unless special arrangements have been made in advance.

**Majors and Minors**

- **Art**
- **Foreign language**
  - French
  - German
  - Latin
  - Spanish
- **Mathematics**
- **Music**
- **Science**
  - Biological
  - Chemistry
  - Natural sciences—biological
  - Natural sciences—physical
  - Physics
- **Social studies**
  - Comprehensive
  - Economics
  - Geography
  - History
  - Political science
  - Sociology/Anthropology

**Minors Only**

- **American studies**
- **Anthropology**
- **Computer studies**
- **Geology**
- **Journalism**
- **Philosophy**

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**Speech Communication**

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**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 and degree. A check sheet of requirements for each teaching field is available from the College of Education.

**Natural Science—Biological**

This major requires a minimum of 50 hours. A teacher who qualifies under this provision may teach chemistry, general science, and biology. Students also may make arrangements to qualify to teach other sciences.

**Natural Science—Physical**

This major requires a minimum of 50 hours. A teacher who completes this program may teach chemistry, general science, and physical science. Students also may make arrangements to qualify to teach other sciences.

**Social Studies**

Completion of this 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.

**Communicative Disorders and Sciences**

The Department of Communicative Disorders and Sciences provides academic and clinical education for students at 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-language pathologist or audiologist in the public schools, hospital clinics, or rehabilitation centers or to
engage in private practice. With an undergraduate, preprofessional major, students completing the master’s program will be eligible to apply for certification by the American Speech-Language-Hearing Association, the state of Kansas public schools, and Kansas licensure. 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 area 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 educational program.

Students should make formal application for practicum courses one semester prior to enrollment. Evaluation of the student's speech, language, and hearing proficiency will be conducted. Significant deviations in any area must be corrected to maximum ability before enrollment in practicum courses or student teaching. In addition, medical clearance is required for all observation and practicum classes. 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 emphasize applied language study may enroll in the communicative disorders and sciences major 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 teacher certification requirements. These are stated under general requirements at the beginning of the College of Education section of the Catalog.

Speech-Language Pathology
The major with emphasis in speech-language pathology consists of a minimum of 42 hours. Students should work closely with advisers to ensure proper course selection for certification and degree. A check sheet of requirements is available from the College of Education and the department office, 113 Hubbard Hall.

Audiology
The major with emphasis in audiology consists of a minimum of 41 hours. Students should work closely with advisers to ensure proper course selection for certification and degree. A check sheet of requirements is available from the College of Education and the department office, 113 Hubbard Hall.

Applied Language Study in Fairmount College of Liberal Arts and Sciences
The major with emphasis in applied language study consists of a minimum of 36 hours. Students should work closely with advisers in the College of Education and Liberal Arts and Sciences to ensure proper course selection for certification and degree. A check sheet of requirements is available from the College of Education and from the College of Liberal Arts and Sciences.

Teacher Education Certification
One full semester of practicum in the public schools is required for all students working toward certification as public school speech-language pathologists or audiologists.

The assignment for student teaching begins with the opening of the public schools, and the student teacher is expected to follow the school calendar, on a half-day basis, for a semester.

Students must apply for admission to the student teaching semesters. They must have an overall grade point average of 2.500; a 2.500 average in the major field; a grade of C or better in English 101 and 102 and in Communication 111, or their equivalents; and the recommendation of the major department.

Clinical 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-language pathology or in audiology.

Undergraduate Minor
A minor in communicative disorders and sciences consists of 17 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 111Q, 232, 300, 304, 306, and 501. Arrangements for the minor should be made in consultation with the Department of Communicative Disorders and Sciences.

Other Requirements
Participation in 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 students who participate in active clinical practice during the year must purchase professional liability insurance in the amount of not less than $1,000,000 / $3,000,000. This must be done on a yearly basis, when appropriate.

CDS 770, Communicative Development and Disorders is a general survey course and may not be used as part of either a major or minor in communicative disorders and sciences at the undergraduate or graduate level without departmental consent.

Clinical Services
Clinical services for members of the community with speech, language or hearing disorders, as well as students enrolled at Wichita State, may be arranged with the Speech-Language Hearing Clinic. Fees are charged for these services.

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.

General

Lower-Division Courses
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. Independent outside practice is necessary to facilitate skill.

281. Cooperative Education. (I-8). Allows students to participate in the cooperative education program. Offered Cr/NCr only.

Upper-Division Courses
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. Emphasizes vocabulary and interpreting skills. Prerequisite: CDS 260.
Courses for Graduate/Undergraduate Credit

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.

500. Senior Seminar. (1-2). Advanced study in selected areas of speech, language, and hearing disorders, with students structuring the content of the seminar. Provides an opportunity for original student contributions within a group seminar experience under the guidance of a senior professor. Prerequisite: CDS major with junior or senior standing.


681. Cooperative Education (1-8). 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: 2.5 GPA. Repeatable for credit. Offered Cr/NCr.

740. Speech and Hearing Science. (3). Individual or group study in specialized areas of communicative disorders and sciences. Repeatable.

750. Workshop in Communicative Disorders and Sciences. (1-4). Offered periodically on selected aspects of speech and hearing habilitation.

Courses for Graduate Students Only

800. Research Methods. (3). A survey of the different research methods utilized in the fields of communication sciences and communicative disorders. Students acquire the fundamental motivation, knowledge and skills for conducting clinical and basic science research and for reading and critically evaluating the clinical research literature. Prerequisite: graduate student status.

890. Independent Study in Speech and Language Pathology or Audiology. (1-3). Individual or group study in specialized content areas in speech and language pathology or audiology. Repeatable. Prerequisite: instructor's consent prior to enrollment.

922. 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.

989. Thesis Research. (1-2). Repeatable, but total credit hours counted toward degree requirements must not exceed two. Prerequisite: instructor's consent.

906. Phonetics: Theory and Application. (3). Introduction to the International Phonetic Alphabet and its use in transcribing the sounds of American English with emphasis on the major dialects. Study of phonetic, acoustic, and perceptual specification of speech sounds and a survey of current phonetic theory and applications to speech improvement. Extensive practice in transcription of speech. Prerequisites: prior or concurrent enrollment in CDS 111Q.

Courses for Graduate/Undergraduate Credit

501. Speech and Hearing Science. (3). Examination of elements in the chain of events that lead to human communication. Studies speech production and perception at physiological and acoustical levels with primary emphasis on acoustics. Prerequisite: CDS 111Q.

605. Neurology of Speech and Language I: Basic Processes. (4). A consideration of basic neuroanatomy and neurophysiology necessary for understanding the representation of speech and language in the human central nervous system and of conditions resulting from neurological impairment. Prerequisite: at least senior standing.

Courses for Graduate Students Only

801. Advanced Speech and Hearing Science. (3). Advanced study of speech and hearing processes, primarily in their normal aspects. Attention to current understanding of speech generation, the speech signal, and the normal function of hearing. Attention also to techniques of investigation of these processes. Prerequisite: CDS 801 or equivalent or departmental consent.

807. Laboratory Technologies. (3). An introduction to clinical and research instrumentation used in the fields of communicative disorders and sciences. Experience with instrumentation and training through practical projects and applications within the laboratory. Prerequisite: CDS 801.

900. Speech Acoustics. (3). A detailed analysis of the acoustics of speech. Studies the various theories of speech sound production along with the instrumental analysis of speech sounds and ends with an examination of various speech disorders from the point of view of acoustics. Prerequisite: CDS 801.

903. Speech Perception. (3). A critical review of the theories and empirical research addressing the perception of speech, speech-specific communication, and speech recognition systems through artificial intelligence. Discusses both unimodal and bimodal models of perception. Prerequisite: CDS 900.

904. Speech Physiology. (3). A consideration of recent research concerning the physiological bases of speech. Emphasizes understanding the instrumental techniques utilized in such studies. Prerequisite: CDS 801.

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.
Speech and Language Pathology

Lower-Division Courses

111Q. Disorders of Human Communication. (3). Division B course/elective. An orientation to disorders of human communication, communicative and psychosocial problems commonly encountered and general approaches to habilitation.


Upper-Division Courses

414. Speech-Sound Disorders. (3). Basic methods and procedures of identifying, assessing, analyzing, and remediating speech-sound disorders. Practice in phonetic transcription of highly unintelligible speech samples. Prerequisites: CDS 306.

416. Introduction to Language Disorders. (3). Introduction to language disorders of form, content, and use. Includes basic assessment and remediation procedures. Prerequisite: CDS 304.

419. Organic Anomalies. (3). Discusses assessment and remediation strategies in the management of communicative disorders resulting from chromosomal, endocrinologic, metabolic, and structural anomalies. Addresses other issues including medical problems, ethical concerns, behavioral control, feeding techniques, and augmentative communication.

490. Directed Study in Speech and Language Pathology or Audiology. (1-3). Individual study or research on specific problems. Repeatable for credit. Instructor's consent must be obtained prior to enrollment.

Courses for Graduate/Undergraduate Credit


516. Language Intervention Strategies—Birth to 5. (3). Discussion of current language intervention strategies and programs for infants, toddlers, and preschoolers, birth to 5 years. Examination of assessment procedures and the development of individualized and family plans. Discussion of the multidimensional nature of language and culturally different language patterns. Prerequisite: CDS 416.

635. Clinical Methods in Speech and Language. (1). Techniques and methods for development of clinical skills in a supervised practicum setting. Children with language and speech sound disorders provide the primary focus. Development of a philosophy of the clinical process will include clinical procedures for therapy, writing behavioral objectives, and progress reports, and conducting parent conferences. Prerequisites: junior or senior standing, 20 clock hours of observation, CDS 414 and 416, prior or concurrent enrollment in CDS 510.

636. Beginning Practicum in Speech and Language. (1). Supervised practicum of clinical assignments in the University Speech-Language-Hearing Clinic. Prerequisite: prior or concurrent enrollment in CDS 635, instructor consent one semester prior to enrollment, medical clearance.

676. Teaching English as a Second Language. (2-3). Cross-listed as Engl. 676 and Ling. 676. Consideration of theories of second-language teaching with special application to English. Description and evaluation of current methods of teaching English. Practical application for various levels of instruction.

711. Voice Disorders. (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 intervention, based on a working knowledge of the anatomy and physiology of normal voice production. Multicultural issues are considered. Prerequisites: at least senior standing and CDS 300, 510.

712. Fluency Disorders. (3). A review of current theories on the etiology and development of the disorder. Considers behaviorally-based diagnostic procedures for children and adults, as well as methods for clinical intervention, including procedures for parent interviewing and counseling, and multicultural concerns. Provides opportunities for observation, one focus being demonstration of intervention methods. Prerequisite: senior standing and CDS 300, 510.


716. Language Disabilities in Children and Adolescents. (3). Examination of various approaches to working with children and adolescents with language abilities. Practical application of language assessment procedures, individualized planning, and language intervention strategies. Language in the classroom for school-age children and adolescents and collaborative strategies. Multicultural literacy and the multidimensional nature of language in the classroom. Prerequisite: CDS 416 or departmental consent.

718. Craniofacial Anomalies. (3). Provides a working knowledge of research and theory concerning etiology, characteristics, assessment, and clinical management of individuals having craniofacial anomalies. Prerequisite: CDS 501.

770. Communication Development and Disorders. (3). Identification of communication deviations, differentiating disorders from developmental and/or cultural/linguistic differences. Evaluation of potential impact of various communication disorders on academic performance of individuals. Consideration of strategies for facilitating development of children's communication skills in educational settings.

780. Communication Disorders in Educational Settings. (3). Organization, administration, and professional relationships in public school speech and language management programs on the elementary and secondary school levels. Emphasizes procedures and materials for surveying, scheduling, writing IEP's, therapeutic management, record keeping, and utilization of various instructional media. Should be taken prior to student teaching—CDS 781 and 782. Prerequisite: Prior or concurrent enrollment in CDS 510.

781. Speech and Language Practicum in the Public Schools (2). Half-time participation in a public school speech and language management program under the guidance of a certified clinician and a university supervisor. Prerequisites: Graduate standing, CDS 716 and 780, departmental consent one semester prior to enrollment, and medical clearance.

782. Speech and Language Practicum Seminar for Public Schools. (1). Discussion and evaluation of student teaching experiences in public schools, demonstrations of applied clinical skills, counseling on the elementary and secondary school levels. Prerequisite: to be taken concurrently with CDS 781.

786. Practicum in Rehabilitative Audiology. (1). Repeatable. Perform supervised habilitation/rehabilitation for hearing-impaired children and adults. Prerequisites: prior or concurrent enrollment in CDS 764 and or 864, or instructor's consent.

Courses for Graduate Students Only

810. Neurology of Speech and Language II: Motor Speech Disorders. (3). Studies speech disorders resulting from upper and lower motor neuron lesions in the central nervous system and emphasizes evaluation and treatment strategies for intervention. Prerequisite: CDS 605.

812. Neurology of Speech and Language III: Aphasia and Head Trauma. (3). Language assessment and treatment strategies in adult aphasia, closed head injury, and right hemisphere communication impairment. Includes medical aspects of stroke rehabilitation, transdisciplinary intervention, and contemporary and future professional issues in clinical aphasiology. Prerequisite: CDS 605.

815. Interviewing and Parent Counseling. (3). Provision of information on the structure and conduct of different types of interviews, and consideration of the "helping" role, as practiced by professionals who work with exceptional children or adults. The focus is on information supportive of developing effectiveness in these roles. Multicultural concerns are considered.

818. Communication Disorders in Medical
settings. (3). Provides the principles underlying a transdisciplinary teaming approach with an emphasis on differential diagnosis and treatment of complex disorders found in medical settings. Discusses the fundamentals of private practice and legal issues in the practice of speech-language pathology. Prerequisites: CDS 510 and 812.

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.

831. Practicum in Evaluation Procedures. (1). Provides the student with experience in the evaluation and diagnosis of a variety of communicative disorders. Prerequisite: CDS 510.

832. Beginning Graduate Methods. (1). Lecture and class discussions covering various types of communication disorders and management techniques/methods. Relates theory and methods to students' clinical and practicum assignments. Designed for students with 20 or more practicum clock hours. Prerequisites: CDS 635, 636, or equivalent, instructor's consent, concurrent enrollment in 836.

833. Advanced Methods in Hospital/Adult Care. (1). Class discussions cover various topics pertaining to hospital and adult care practicum experiences. Relates theory methods to student's practicum assignments. Prerequisites: Prior enrollment in CDS 818, concurrent enrollment in CDS 836 and instructor's consent.

834. Advanced Methods for Phonological Disorders. (1). Procedures for evaluation and remediation of children's highly unintelligible utterances. Discussion of clients' individual needs. Prerequisites: Prior or concurrent registration in CDS 714, concurrent enrollment in CDS 836, instructor's consent.

836. Graduate Practicum in Communicative Disorders. (1-2). Repeatable. Supervised application of diagnostic and/or clinical management techniques with individuals presenting communicative disorders. Prerequisites: CDS 635 or 832 or equivalent; DS 516; concurrent enrollment in 516 and instructor's consent.

837. Advanced Methods in Language. (1). Lecture and class discussions cover various types of language disorders. Relates theories and methods to students' clinical and practicum assignments. Prerequisites: CDS 635 or 832 or equivalent; CDS 516; concurrent enrollment in 516 and instructor's consent.


839. Advanced Methods in Accent Modification. (1). Lecture and discussion of techniques for foreign accent and dialect modification. Relates techniques to students' practicum experience in CDS 570. Attendance in CDS 570 required. Prerequisites: CDS 635 or 832 or equivalent; concurrent enrollment in CDS 836.

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.

Audiology

Lower-Division Course

250. Introduction to Audiology. (3). 3R; IL. History and scope of the field. Studies basic aspects of hearing and their implications for audiometric testing procedures, including audiometric screening. Also includes an introduction to the use of hearing aids, auditory training, the science of hearing, and rehabilitative counseling. Prerequisite: CDS 111Q.

Upper-Division Courses

350. Auditory Disorders. (2). Introduction to the etiology, nature and symptomology of auditory disorders and pathologies. Discusses basic principles of audiogram interpretation, surgical protocols and models of aural habilitation including amplification. Prerequisite: CDS 250.

450. Educational Audiology. (2). Evaluation of the etiology, nature and symptomology of auditory disorders and pathologies. Discusses basic principles of audiogram interpretation, surgical protocols and models of aural habilitation including amplification. Prerequisite: CDS 250.


452. Beginning Practicum in Audiometrics. (1). Supervised practicum of audiometric techniques in the University Audiology Clinic. Emphasis on acquisition of diagnostic and treatment skills. Prerequisites: CDS 250, 501, medical clearance, departmental consent, and concurrent enrollment in CDS 452.

457. Audiology Practicum in the Public Schools. (3). Half-time participation in a public school audiologic program under the guidance of a certified clinician and a college supervisor. Prerequisites: CDS 250, 451, and 452, senior standing, medical clearance and departmental consent one semester prior to enrollment.

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.

550. Senior Seminar in Audiology. (2). An exploration of theories, principles, practices, and pitfalls of audiology and a special emphasis on creating dynamic models for research interpretation, clinical interaction, and professional management. Examination of the current educational, professional, and ethical issues in clinical audiology and hearing science. Prerequisite: CDS 450 or senior standing.

Courses for Graduate/Undergraduate Credit

751. Clinical Audiology I. (3). 3R; IL. Techniques and procedures for administering the basic auditory test battery and the interpretation of audiometric results. Prerequisites: graduate student status.

752. Clinical Audiology II. (3). 3R; IL. Diagnostic and rehabilitative procedures in the audiology clinic. Techniques and procedures for the administration and interpretation of special auditory tests including tests for dysarthria, tests for central auditory pathology, and calibration. Prerequisite: CDS 751.


826. Anatomy and Physiology of the Auditory System. (2). Examines in detail anatomy and function of the auditory system in light of current research knowledge. Studies normal system as a basis for understanding the pathological system. Prerequisites: CDS 250, 501.

827. Introduction to Psychocoustic. (2). 2R; 1D. 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 826.

851. Medical Audiology. (2). Many hearing disorders require evaluation/treatment by both the audiology and medical professions. Course reviews the audiological and physiological/medical aspects of the more common of theses conditions found in children and adults. Prerequisites: CDS 250, 826, or instructor's consent.

854. Community and Industrial Audiology. (2). Review of recent developments and research with attention to industrial audiology, federal and state regulations, and environmental noise problems. Prerequisite: CDS 751.

858. Auditory Evoked Potentials. (3). Techniques and procedures for administration and interpretation of physiologic tests of the auditory system, including electrocochleography (ECoG), auditory brain stem response (ABR), and the later occurring cortical evoked potentials (MLF, LAFP, and P500). Prerequisite: CDS 605, 626, 851.

859. Electrostroemotography. (1). Techniques and procedures for clinical evaluation of the functional status of the peripheral (inner ear) and central nervous system portions of the vestibular or balance system. Prerequisite: CDS 858.

860. Amplification I. (3). 3R; 2L. The history and function of hearing aids, auditory trainers, and assistive listening devices. The measurement and significance of the electroacoustic characteristics. The principles and procedures for the selection and recommendation of specific amplification systems for individual hearing losses. Prerequisite: CDS 751.


862. Audition. (3). 3R; 2L. The hearing process, including the role of the peripheral hearing mechanisms and the neural pathways involved. The influence of age, environmental factors, and disease on hearing. Prerequisite: CDS 605.

863. Hearing Impairment. (3). The epidemiology of hearing impairment and the impact of hearing loss on individuals, families, and society. The role of the audiologist in the assessment and management of hearing impairment. Prerequisite: CDS 605.

864. Habilitation of the Hearing-Impaired Child. (2). Psychological, social, and educational impact of congenital and adventitious hearing loss in hearing-impaired children. Studies the acquisition of speech and language skills of hearing-impaired children, current assessment, and intervention strategies to develop functional and effective communication, and the techniques and programs to assist hearing-impaired children and their parent overcome the barriers posed by hearing impairment. Prerequisites: graduate standing, CDS 250, 450.

865. Family Counseling. (3). The role of the family in the development of the individial, with emphasis on the family as a system. Prerequisite: CDS 605.

866. Graduate Practicum in Audiology. (1-2). Repeatable. Application of audiometric techniques to clinical situations. Experience in complete patient management, counseling, and rehabilitation follow-up, when appropriate. Requires 3-4 hours of practicum per week for each hour of credit. Prerequisites: departmental consent and medical clearance.

867. Counseling, Educational, and School Psychology

Lower Division Courses

150. Workshops in Education. (1-2).

152. Special Studies in Education. (1-4). 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.

Upper-Division Courses

332. Child Development. (3). A study of the growth and development of the individual from the time of conception to adolescence; emphasizes the relationship among research, theory and application. Prerequisite: Psy 111Q or equivalent.

333. Adolescent Development. (3). A study of the growth and development of the individual during early, middle, and late adolescence; emphasizes the relationship among research, theory and application. Prerequisite: Psy 111Q or equivalent.

334. Growth and Development. (2). Examines developmental theories and principles in the dimensions of physical, cognitive, and psychosocial growth. Explores the social and cultural contexts in which growth and development occur. Students demonstrate openness and objectivity towards issues and theories by inspecting their own biases. Prerequisites: Psy 111Q, acceptance into teacher education program, and concurrent enrollment in CDS 430, 601, and 311.

433. Learning and Evaluation. (3). Examines the nature of learning and memory, learning strategies, individual differences and social factors influencing learning. Also examines effective use of measurement instruments, observations, questioning strategies and grading plans. Students learn to apply psychological and evaluation principles to teaching and learning. Prerequisites: CESP 334, CDS 311, CDS 430, 601.

450. Workshops in Education. (1-4). Accommodates a variety of topics related to counseling, guidance and communication issues in helping relationships. May emphasize different preselected topics during a semester. Repeatable for credit.

455Q. Family Crucible. (3). Division B course/ elective. An exploration of issues involved in understanding marriage and family life with an experiential and interdisciplinary focus utilizing developmental, cultural and family systems perspectives. Provides opportunities to examine personal values, experiences and expectations in connection with the personal growth dimensions of family life. Prerequisite: upper-division standing.

490. Independent Studies. (1-3).

Courses for Graduate/Undergraduate Credit

652. Student Development. (3). Training for students involved as small-group leaders. Prerequisite: DARE student leader.

653. Studies in Student Development. (1-2). A supervised experience for students participating as peer advisors and leaders in developing activities for students entering or assigned to University College. Emphasizes peer counseling and consulting skills. Prerequisites: CESP 652 and DARE student leader.

655. Studies in Student Services. (1-6). Provides students with training in basic helping skills for paraprofessional counseling. Involves training and periodic seminars. May be repeated for a maximum of six hours credit. Prerequisite: departmental consent.

681. Cooperative Education (1-8). 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: Graduate standing in the department and department or college approval. No more than 3 credit hours will be allowed in one plan of study. Repeatable for credit. Offered Cr/NCr.

704. Introduction to Educational Statistics. (3). An introduction to statistics, including measures of central tendency, measures of variability, correlation, chi square, median test, t test, and one way and two-way analysis of variance.

728. Theories of Human Development. (3). Describes what developmental theories are, what they do, where they come from, how they work and how they are used to explain human nature. Uses theoretical assumptions and related research to systematically evaluate developmental theories in terms of their scientific worthiness and their ability to address characteristics of human development. Focuses on those theories which helped shape the way we currently view human development as well as significant new perspectives which may shape the way we view it in the future. Prerequisites: CESP 334, Psy 334, or equivalent, and CESP 801 or equivalent, or instructor's consent.

729A, B, C, and D. Applications in Development: (A) Infants/Toddlers—prenatal to three; (B) Early Childhood—three through eight; (C) Late Childhood/Early Adolescence—nine through fourteen; (D) Adolescent to Young Adult—fifteen to young adulthood. Each course a depth study of the physical, cognitive, emotional, and social development of the child in family and social environments. Focuses on the integration of a conceptual framework with the basic elements of an appropriate environment to facilitate healthy development. Prerequisite:
CESP 728. Students who have a previous age-specific graduate course in growth and development may request instructor’s consent to take 729A, B, C or D as an update.

732. Behavior Management. (3). Presentation and utilization of psychological principles and techniques for dealing with developmental behavior and learning patterns. Emphasizes the preschool and elementary school child. Prerequisite: CESP 334 or equivalent or departmental consent.

750. Workshops. (1-4).

752. Special Studies In Education. (1-3). For students with personnel and guidance interests. May emphasize different preselected areas during a semester. Repeatable with advisor’s consent. Prerequisite: instructor’s consent.

Courses for Graduate Students Only

800. Principles and Applications of Educational Psychology. (3). A critical examination of the major topics traditionally defined as educational psychology. After examination of basic paradigms and strategies of the discipline, students apply them to such areas as instructional practices and design, classroom management and discipline. Prerequisite: CESP 334, 433, 801.

801. Introduction to Educational Research. (3). An introduction to research in education. Includes (1) a survey of current educational research, (2) the nature of research methodology, (3) the preparation of research reports and (4) criticism of current research.

802. Introduction to Interaction Process. (1). A laboratory approach to an examination of the counselor’s role in the counseling process. Helps the prospective counselor increase personal understanding of self as a variable in the counseling process. Prerequisites: counseling majors and instructor’s consent. To be taken concurrently with CESP 804. May not be taken concurrently with CESP 825.

803. Counseling Theory. (3). A study of selected theories of counseling. Prerequisite: CESP 804 or concurrent enrollment or admission to school psychology program.

804. Principles and Philosophy of Counseling. (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. Prerequisite: admission to counseling program.

807. Counseling: Child Abuse and Neglect. (2). The etiology, symptoms and indicators, treatment and prevention issues of physical abuse and neglect, emotional abuse and neglect and sexual abuse. Prerequisites: CESP 704, 801, 802, 803, 804.

808. School Psychology Professional Issues. (3). Examines roles and functions of school psychologists within the context of historical foundations of the profession. Uses lecture, discussions, observations in schools and presentations by field-based school psychologists to acquaint students with the kinds of problems with which school psychologists typically work, the methods they employ to deal with problems, social systems in which these endeavors occur and professional issues that shape and characterize the profession.

810. Elementary School Counseling. (3). The role of the elementary counselor in providing individual and group counseling, school guidance and consultation in the school setting. Prerequisites: CESP 704, 801, 802, 803, 804.


815. Career Development. (2). The classification, collection, evaluation and use of informational materials in a guidance program. Also includes current occupational trends and developments and theories of occupational choice. Prerequisites: CESP 704, 801, 802, 803, 804.

819. 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 school-related issues and problems.

820. Learning Theory and Instruction. (3). Applications of some major learning theories and learning principles. Prerequisite: CESP 801 or departmental consent.

821. Multicultural Issues in Counseling. (2). Examinations of counseling with families, and the identification of multicultural issues that may arise in counseling. Prerequisite: CESP 801 or departmental consent.

822. Psychometric Procedures in Counseling. (3). Survey and study of standardized tests and their application in counseling, emphasizing their selection, interpretation and implementation. Studies the basic concepts of interpretation of psychological tests and inventories, including basic measurement theory and the factors involved in the selection of tests. Prerequisites: CESP 704, 801, 802, 803, 804; or instructor’s consent.

823. Experimental Design in Educational Research. (3). A consideration of sampling theory, design for testing hypotheses about populations materials, and measurement of correlation coefficients. Prerequisites: CESP 704, 801, 802, 803, 804.

824. Techniques of Counseling. (3). Examinations and practice techniques of counseling through simulated counseling situations and extensive examination of counseling case studies. Prerequisites: CESP 728, 821, 822 and PSY 845.

825. Group Counseling Techniques. (2). Examines different kinds of groups, group selection, communication patterns in groups and issues to be addressed in group settings.

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: CESP 803 or departmental consent.


840. Psychology of Exceptional Children. (3). Study of the conceptual and theoretical formulations, empirical evidence and research concerning behavioral characteristics of exceptional children.

852. Special Studies. (1-4). Covers specific topics identified by the department in consultation with institutions or groups of graduate students. Course procedures vary according to topic. Repeatable. Prerequisite: instructor’s or departmental consent.

855. Individual Intelligence Assessment. (3). Use of individual tests for appraisal of intelligence, adaptive behavior and learning styles. Consideration of the assessment theories and techniques of test usage in a lecture-discussion format, which includes some case simulations and practice activities. Prerequisites: CESP 822 and instructor’s consent.

856. Counseling Practicum. (3). Supervised practice in counseling. Requirements include at least 60 hours of clinical experience. Repeatable for credit. Prerequisites: CESP 824 and 825 and coordinator’s consent. Must be taken within one year of completion of CESP 824.

857. Professional and Ethical Issues. (2). Study of major ethical, legal and professional issues in counseling. Prerequisites: CESP 824 and 825.

858. Diagnostic Testing. (3). Use of individual tests, rating procedures and behavioral techniques for the appraisal of perceptual development, cognitive development, classroom behavior and academic skills. Considers research techniques and research relevant to these areas in a lecture-discussion format which includes some case simulations and practice activities. Prerequisites: CESP 822, 855 and instructor’s consent.

859. School-Based Interventions. (3). Focuses on planning, implementing, monitoring and evaluating interventions in the school setting with students who are experiencing academic and/or behavioral problems. Prerequisite: CESP 822 or departmental consent.


862. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Repeatable for a maximum of two hours of credit. Prerequisite: CESP 660.

866. Practicum in Guidance Services. (2-3). Supervised practice in administration, test interpretation, group counseling and other
activities of the department. Prerequisites: CESP 833 and instructor’s consent.

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 first. Prerequisites: CESP 825, 856 and instructor’s consent.


881. Seminar in School Psychology. (1). Examines current trends and issues within the area of school psychology. Also considers alternative role models for the school psychologist 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. Prerequisite: CESP 804 or concurrent enrollment or instructor’s consent.

890. Special Problems. (1-3). Directed reading and research under the supervision of a graduate instructor. Prerequisite: departmental consent.

903. Counseling Theory II. (3). In-depth critical review of research and applicability of major theories to the evaluation and design of interpersonal intervention strategy.

914. Consultation Techniques. (3). Intensive study of the literature in counseling, school psychology, social psychology and administration that provides a basis for consultation techniques in the interpersonal context of school and work settings.

915. Intervention Design. (2). Gives the student further experience and skill in utilizing theories of interpersonal relations in creating macro- and micro-learning experience designs for individuals or groups experiencing dysfunctional situations. Stresss individual and organizational effectiveness assessment skills.

926. Seminar: Selected Topics. (2). Intensive study of current issues, theories, 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.

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.

930. Marriage and Family Counseling II. (3). An advanced course on marriage and family counseling, including theory, techniques and research in the field. Prerequisite: CESP 803, 830, 30 graduate hours or permission of instructor.

934. Personality Assessment. (3). Focuses on theory and interpretation of instruments representing three major approaches to personality assessment: projective techniques, behavioral techniques and personality inventories. Includes alternative personality assessment approaches and reviews of personality theory and psychopathology. Includes supervised experience. Prerequisites: CESP 822, post-master’s standing or last six hours of master’s program.

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. Prerequisite: departmental consent.

947. Internship in Counseling: Internal or External. (2). The Internship is normally a full-time placement, appropriate to career objectives in a position within an agency, institution or school. The External Internship is normally a series of planned placement internship experiences in a variety of settings designed to develop expertise in interpersonal consulting. Repeatable up to 6 hours of credit.

948. Practicum in Marriage and Family Counseling. (3). Prerequisite: CESP 930, graduate-student status or departmental consent.

977. Internship in School Psychology. (2). Supervised experience as a school psychologist in a school or agency setting. Requires at least 600 hours of applied experience. Repeatable for a maximum of four hours. Prerequisites: CESP 946 and departmental consent.

990. Special Problems in Counseling and School Psychology. (1-3). Directed problems in research for specialist degree students under supervision of a graduate instructor. Prerequisites: CESP 801 and Instructor’s consent.

Educational Administration and Supervision

Courses for Graduate/Undergraduate Credit

681. Cooperative Education. (1-3). Offers a variety of administrative topics.

750. Experienced Administrator’s Workshop. (1-2). A study of advanced educational administration and supervision areas for practicing administrators. Prerequisite: 2.5 GPA. Repeatable for credit. Offered CR/NCr.

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.

785. A Survey of School Administration Today. (3). An introductory experience for students interested in learning more about school administration at the K-12 level. Emphasizes the role of the administrator as applied theoretician, problem finder, problem solver, legal/financial expert, instructional supervisor and human resource developer. Students are familiarized with the skills, understandings and career commitments essential to success in school administration. Not applicable to EAS graduate degree program requirements. Prerequisite: admission to Graduate School.

Courses for Graduate Students Only

801. Introduction to Educational Administration. (3). An examination of educational foundations and the major theories of administration and application to specific problems. Provides an overview of administration of the school district, especially problems involving the community and staff. Includes data gathering for self-evaluation of supervisory potential.

804. Clinical Supervision for Administrators/Supervisors. (3). An examination of clinically-oriented supervisory models, explicit teaching approaches and their practice applications. Emphasizes the use of formative evaluation strategies that focus on performance issues coming from actual teaching situations and the teacher’s guided analysis of these issues. Also considers related responsibilities of the supervisor for planning and organizing staff development activities. Prerequisite: EAS 801.

826. Curriculum Management. (3). A study of curriculum philosophies, theories and developmental processes. Includes examination of recent programs and proposals, curriculum development at the building and school system levels and techniques of program evaluation.


842. School Law. (3). General concepts of law, interpretations of statutes and court decisions affecting education, and legal responsibilities of school personnel.

852. Special Studies in Educational Administration and Supervision. (1-3). Group study in new materials, new research or innovations in advanced educational administration and supervision areas for practicing administrators or advanced students. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

854. Finance and Facilities Management. (3). Designed for those preparing to become administrators at the school-building level. Focuses upon the knowledge and skills necessary to plan and organize work groups, projects, and the resources necessary to carry out day-to-day functional activities of schools.

860. Research Seminar in Educational Administration and Supervision. (3). Designed for students in advanced study. Emphasizes development of research proposals and studies. Prerequisite: completion of master’s degree or adviser’s consent.

862. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Repeatable for a maximum two hours of credit. Prerequisite: EAS 860.

873. Interpersonal Skills for Administrators. (3) Designed as a laboratory approach to interpersonal skills development. Students engage in simulation exercises to acquire skills in dealing with groups.

878. Strategies for School Improvement. (3). An examination of organizational/instructional characteristics of schools as determinants of their effectiveness (e.g., pupil academic achievement). Considers various school improvement models, including programs designed specifically for elementary and secondary schools. Research studies considered examine established correlates for school effectiveness, as well as related teacher effectiveness variables. Prerequisite: EAS 801 and 804.

884. School Plant and Facilities. (3). Planning new educational facilities based upon educational programs. Includes the evaluation of existing schools, remodeling and operation and maintenance of present school plant. Prerequisite: master's degree or instructor's consent.

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.

892. Principalship/Practicum. (6). Two–semester course includes building-level field experiences designed to emphasize the acquisition of knowledge and skill in administrative practices and procedures of administration. Prerequisites: all program course work and departmental consent.

901. Supervisory Strategies for Successful Schools. (3). An examination of supervisory strategies designed to enhance school and classroom effectiveness. Focuses on contingency approaches to supervisory practice, curriculum and instructional leadership requirements, measurement and evaluation issues, staff development and school restructuring requirements, and related school climate issues. Prerequisite: EAS 804.

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.

953. Financial Support of Education. (3). Focuses on the financial support of education at local, state and national levels. Emphasizes methods of taxation, budget preparation and efficient expenditures. Prerequisite: master's degree or instructor's consent.

955. Field Project in Administration and Supervision. (2-6). 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 concern or a needed investigation or inquiry. Acceptable projects are developmental or must include an appropriate research design. 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.

963. Politics and Power in Education. (3). An examination of the interaction of society and the school as it relates to administrative processes. Studies systems of control, social class, power structure, human relations and group dynamics. Prerequisite: instructor's consent.

970. Advanced Administrative Theory Seminar. (5). Examines the relationship between theory and practice in educational administration. Participants consider various theoretical frameworks for empirical studies, program designs, and organizational implementation efforts and take initial steps toward an integration of those frameworks. Class activities require the application of the constructs and propositions considered to an on-going analysis of school-related problems and the conceptualization of action programs for addressing such problems. Prerequisite: Admission to EdD program in EAS.

971. Decision-Making and Problem-Solving Seminar. (5). Focuses on approaches to identifying, clarifying, and solving various problems in elementary and secondary education. Decision-making and problem-solving models are reviewed, critiqued, and applied. Prerequisites: Admission to EdD program; EAS 970 and 981, concurrent enrollment in EAS 982.

981, 982, 983, 984, 985, 986. Field-Based Research I, II, III, IV. (1-6). Follows EAS 986 and EAS 987 and culminates this field-based sequence. Prerequisites: Admission to EdD program; EAS 986 and 987.

990. Special Problems in Administration. (1-4). Directed problems in research for specialists and doctoral degree students under supervision of a graduate instructor. Prerequisite: instructor's consent.

991. Practicum in Educational Administration and Supervision. (1-2). Designed for persons who have been employed in their first administrative position and are seeking recertification in Kansas. Course of study is individually designed by an EAS faculty member with the student and his/her school district supervisor. Addresses the needs of the student and of the district. 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.

992. Superintendency/Internship. (6). Two-semester course designed primarily for individuals who are completing an educational specialist program in Educational Administration and Supervision. Focuses on the role expectations of district-level administrators, and includes field experiences designed to emphasize knowledge and skill in administrative practices and procedures. Work is designed for each student's projected administrative interest. Students must file an application for this terminal course. Prerequisites: building-level administrator certification, all program course work and departmental consent.

999. Dissertation Research. (1-6). Taken concurrently with EAS 986, 987, and 988 and for six credits each semester during the last year of enrollment. Provides students with dissertation proposal and dissertation advisement and may be taken for one to six credits per term for a maximum of 24 credits. Up to 17 credits may be counted toward program completion. Prerequisites: Admission to EdD program in EAS and required doctoral coursework.

Curriculum and Instruction
Undergraduate teacher education in curriculum and instruction is a five-stage competency-based program beginning with an introduction to teaching and concluding with reflections on an extended student teaching experience. Through intensive academic and field experience combined with systematic student reflection, the goal of this program is to produce effective, informed and reflective teachers, capable of independent practice and continued professional growth.

Students enter the set of course work for the teacher education program when they are in their fifth year with the Preprofessional Block (normally spring only) taking CI 301 and 302 concurrently. Each
290. Directed Study. (2-3).

291. Block 1 Field Experience. (1). Provides classes which must be taken concurrently in the academic environment. Learn how to use computers and software to organize coursework, outline and plan papers, write and edit text, search for information, compile and report data and integrate data with text. Apply the course content in a computer lab under the supervision of the instructor.

290. Directed Study. (2-3).

312. Block 2 Field Experience. (1). Focuses on block thereafter contains two to four classes which must be taken concurrently. The courses in each of the blocks must be taken together and completed before entering the next set of course work.

Lower-Division Course

201. The Computer as a Learning Tool I. (1). Provide computing skills necessary to succeed in the academic environment. Learn how to use computers and software to organize coursework, outline and plan papers, write and edit text, search for information, compile and report data and integrate data with text. Apply the course content in a computer lab under the supervision of the instructor.

290. Directed Study. (2-3).

Upper-Division Courses

301. Introduction to Professional Education. (2). Students examine the character of good teaching, the nature of teacher education programs, basic historical and philosophical foundations of education and employment options. They analyze their own personal qualities, personal strengths and weaknesses, and values and beliefs about teaching and reach an informed decision regarding their own suitability for teaching. Prerequisites: C or better in English I and II, Communication and College Algebra, sophomore standing, 2.75 GPA, in the 35th hour and concurrent enrollment in CI 302.

302. Preprofessional Field Experience. (1). Intended primarily to give prospective teachers the opportunity to consider seriously their suitability for a career in education. In addition, students begin to develop skill in observing educational situations and settings which help them develop a teacher perspective, seeing schools as prospective workplaces and teachers as colleagues. Graded S/U only. Prerequisites: C or better in English I and II, Communication and College Algebra, sophomore standing, 2.75 GPA, in the 35th hour and concurrent enrollment in CI 301.

311. Block 1 Field Experience. (1). Provides students with experiences in socio-cultural school and classroom observations, observations of and work in special education settings, alternative schools and tutorial work with individuals or small group settings. Graded S/U only. Prerequisites: acceptance into teacher education, CI 301 and 302 and concurrent enrollment in CI 320 and 430 and CESP 334.

312. Block 2 Field Experience. (1). Focuses on pupils' learning behaviors, methods of assessment, measurement, grading, curriculum goals and content as they influence classroom teaching, and teachers' methods of classroom management and instruction. Graded S/U only. Prerequisites: acceptance into teacher education, CI 311, 320 and 430, CESP 334 and concurrent enrollment in CESP 433 and CI 312.

316. Children's Literature. (3). Students examine books, materials and activities suitable for use with children in the preschool and elementary grades. Includes reading and examination of a wide selection of children's books, recordings, poems and films. Students develop evaluative techniques for identifying materials and practice in the use of selection aids. Prerequisites: acceptance into teacher education.

320. The Exceptional Child. (2). Surveys the characteristics of exceptional learners including: mental retardation, learning disabilities, emotional disturbances, physical challenges, hearing/visual impairments and gifted. Also explores the effect of cultural differences and human development on disabilities. Service delivery models and special education practices are presented. Prerequisites: Admission to teacher education CI 301 and 302; concurrent enrollment in CI 311.

322. Instructional Strategies in Language Arts and Reading: Elementary School. (5). Students examine the content and methods of instruction in the subject areas of language arts and reading and practice teach their subjects in a variety of settings. Prerequisites: acceptance into teacher education, CI 311, 316, 320, 430, CESP 334, completion of or concurrent enrollment in CI 328 and CESP 433 and concurrent enrollment in CI 413 for a practicum experience.

328. Curriculum, Instruction and Management. (5). Students examine the nature, purposes and development of curriculum in educational settings. They develop a knowledge and understanding of various curriculum models and how these models influence instruction and the work of teachers.

Students acquire a knowledge and understanding of instruction: the decisions and processes by which teachers translate goals and objectives into classroom realities. Students become familiar with a wide range of practical strategies and techniques associated with various models of teaching and learn to apply these strategies and techniques in actual and simulated teaching situations. Students also acquire practical knowledge of and experience with the development and use of a wide range of instructional media and technology, including the use of computers.

Students examine and learn to use various classroom management strategies in order to maintain control, promote a positive learning climate and facilitate the achievement of instructional objectives. Prerequisites: acceptance into teacher education and CI 311, 320, 430, CESP 334 and concurrent enrollment in CESP 433 and CI 312.

402. Instructional Strategies in Math and Science: Elementary School. (5). Students examine the content and methods of instruction in their subject area and teach their subject in a variety of elementary school settings. Prerequisites: CI 312 and 326, CESP 433, Math, 501, and a physical and/or biological science class.

406. Instructional Strategies in Social Studies: Elementary School. (3). Students examine objectives, methods of teaching, equipment and resources, and evaluation and measurement in the social studies in the elementary school. Students must complete 15 clock hour (classroom) field experience in the schools during normal school hours. A 15 clock hour (classroom) experience is required. Prerequisites: acceptance into teacher education and CI 311.

413. Preservice Teaching. (1-3). This field experience allows students to spend an extended length of time in an appropriate classroom working with a cooperating teacher to plan and implement instruction designed to teach distinct objectives and evaluate learning outcomes. They also evaluate their own instructional practice, noting strengths and weaknesses and planning for improvement. Graded S/U only. Prerequisites: acceptance into teacher education, CI 312 and 328 and CESP 433 or concurrent enrollment in these courses.

427. Philosophy and History of Education. (2). Presents the major contemporary educational philosophies, the development of American education and the historical influences on the structure of schools today. Some emphasis on the students' examination of their own educational philosophy. Prerequisite: entrance into teacher education, CI 301 and CI 302.

430. Social/Multicultural Education. (3). Examines the social and multicultural foundations of education and schools in a changing society. In addition students develop an appreciation for the changing ethnic and cultural characteristics of American schools. Prerequisite: Successful completion of CI 301 and CI 302 and concurrent enrollment in CI 311 and 320 and CESP 334.

446. Student Teaching Seminar: Elementary. (1). Students study and discuss experiences emerging from student teaching including the planning of school programs and assuming the responsibilities of a teacher. Graded Cr/NCr only. Prerequisites: acceptance into teacher education, CI 322, 402 and 406 and concurrent enrollment in CI 427, 446 and 457.

447. Student Teaching in the Elementary School. (8-13). The primary purpose of student teaching field experience is to provide evidence of the preservice teacher's readiness to engage in independent reflective practice as a certified teacher. Working with one or more cooperating teachers in the schools, preservice teachers gradually assume responsibility for instruction. Students are expected to complete a full schedule of classes, including a full schedule for at least 10 days. Prerequisites: acceptance into teacher education, CI 322, 402 and 406 and concurrent enrollment in CI 427, 447 and 457.

The student teaching semester is required of all students working toward a degree certificate in education. Every student wishing to receive the certificate must file an application, available in 151 Corbin, with the certification office. Application for the fall semester must be filed by February 1 and for spring semester by September 1. The only exception to the required number of semester hours is the transfer student who has taken student teaching elsewhere, or the student teacher who holds 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 Standards Committee.

448. Student Teaching in Early Childhood. (4-6). This field experience provides half-time participation in the preschool (three- and four-year-olds) under guidance of a master teacher and a college supervisor. Prerequisites: CI 322, 402 and 406 and nine semester hours of early childhood education. Prerequisites may be waived for equivalent experience with depart-
451. Student Teaching in the Elementary School: Music. (4). Prerequisites: acceptance into teacher education, CI 328, CESP 433, methods in the subject area and concurrent enrollment in CI 427 and 457 and student teaching seminar.

452. Special Studies in Education. (1-3). Primarily for elementary and secondary education majors. Repeatable with advisor’s consent.

454. Instructional Strategies: Secondary. (3), (E) English; (F) Foreign Language; (J) Social Studies; (M) Mathematics; (S) Science. Students examine the content and methods of instruction in their subject area and teach their subject in a variety of settings. In addition, students are provided with the understanding of the development of learning and reading skills and explore instructional approaches for guiding secondary students in those skills and their use in content areas. Prerequisites: acceptance into teacher education, CI 312 and 328, CESP 433, and concurrent enrollment in CI 413.

455. Student Teaching Seminar: Secondary. (1). (E) English; (F) Foreign Language; (J) Social Studies; (M) Mathematics; (S) Science. Students study and discuss experiences emerging from student teaching including planning school programs and assuming the responsibilities of a teacher. Prerequisites: acceptance into teacher education; CI 312, 328, 413, and 454, CESP 433; and concurrent enrollment in CI 457 and student teaching.

457. Senior Seminar. (1). Students engage in reflective practice during their professional semester, reflecting on the social, cultural, philosophical and psychological foundations of education as they relate to the teaching profession. Students examine the role of the teacher as a professional; legal concepts related to employment, the role of the teacher in the educational system, ethics of the profession, communication skills as a staff member, planning for and scheduling aides and volunteers. Provides students with the opportunity to connect field experiences and reflective practice and the WSU College of Education Teacher Education Program. Prerequisites: acceptance into teacher education and concurrent enrollment in student teaching and student teaching seminar.

459. Student Teaching in the Elementary School: Art. (4). Prerequisites: acceptance into teacher education, CI 328 and CESP 433, 2.500 GPA in the major and concurrent enrollment in CI 457 and student teaching seminar.

462. Student Teaching; Secondary Art. (4). Prerequisites: acceptance into teacher education, methods in the subject area, 2.500 GPA in the major and concurrent enrollment in CI 457 and student teaching seminar.

463. Student Teaching; Secondary Biology. (8). Prerequisites: acceptance into teacher education, CI 413 and 454, 2.500 GPA in the major and concurrent enrollment in CI 457 and student teaching seminar.

465. Student Teaching; Secondary English. (8). Prerequisites: acceptance into teacher education, CI 413 and 454, 2.500 GPA in the major and concurrent enrollment in CI 457 and student teaching seminar.

466. Student Teaching; Secondary Foreign Language. (8). Prerequisites: acceptance into teacher education, CI 413 and 454, 2.500 GPA in the major and concurrent enrollment in instructional strategies, CI 457 and student teaching seminar.

468. Student Teaching: Social Science Studies. (8). Prerequisites: acceptance into teacher education, CI 413 and 454, 2.500 GPA in the major and concurrent enrollment in CI 457 and student teaching seminar.

469. Student Teaching: Secondary Music. (4). Prerequisites: acceptance into teacher education, CI 413 and 454, 2.500 GPA in the major and concurrent enrollment in CI 457 and student teaching seminar.

471. Student Teaching: Secondary Mathematics. (8). Prerequisites: acceptance into teacher education, CI 413 and 454, 2.500 GPA in the major and concurrent enrollment in CI 457 and student teaching seminar.

473. Cooperative Education (1-8). 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: 2.5 GPA. Repeatable for credit. Offered Cr/NCR.

479. Foundations of Education. (3). Students survey the various foundations areas, including philosophical, historical, social and comparative. This course is prerequisite to subsequent foundations courses. Prerequisite: graduate standing.

481. Cooperative Education. (1-8). Provides 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. Prerequisites: successful completion of 24 credit hours and a 2.500 GPA. Repeatable for credit. Offered Cr/NCR.

490. Individual Studies in Education. (1-3).

Courses for Graduate/Undergraduate Credit

518. Instructional Strategies: Kindergarten. (3). Students examine the content and methods of instruction in kindergarten and design and develop instructional activities for guiding secondary students in those strategies and their use in content areas.

615. Learning and Reading Strategies. (3). Students are provided with the understanding of the development of learning and reading strategies and the use of instructional approaches for guiding secondary students in those strategies and their use in content areas.

621. Instructional Strategies: Middle Level Education. (3). Students examine the middle grades school as an organization that takes its decision making and instructional emphasis from grades 4 to 8. Study the characteristics of the organization, the curriculum, instruction, and student assessment. Credit is given for either middle level or secondary education majors.

681. Cooperative Education (1-8). 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: 2.5 GPA. Repeatable for credit. Offered Cr/NCR.

701. Foundations of Education. (3). Students survey the various foundations areas, including philosophical, historical, social and comparative. This course is prerequisite to subsequent foundations courses. Prerequisite: graduate standing.

702. Introduction to Exceptional Children. (3). A survey of the characteristics of exceptional learning, including the handi capped and the gifted. Service delivery models and current practices are analyzed. Fulfills certification requirements for teachers and serves as an introductory course in exceptionality for special education majors, administrators and school psychologists. Prerequisite: Bachelor’s degree or departmental consent.

703. Learning Centers. (3). Students consider a variety of alternative approaches to teaching at all grade levels and subject matter areas via learning centers.

705. Introduction to the Reading and Writing Process. (3). Examine all aspects of the current theories and pertinent research on teaching and reading. The stress is on applying this information to the actual teaching of children.

706. Reflective Inquiry. (3). Students consider the relationship between reading, learning, and schooling. Various psychological, historical, philosophical,
707. Introduction to Mildly Handicapped. (3). Examine the roles and responsibilities of special educators and become acquainted with issues and challenges confronting special educators. In addition they examine alternative approaches to the delivery of special education services and with the social systems within which special education services are provided. Prerequisite: acceptance into the Master of Education, special education for mildly handicapped.

711. Multicultural Education. (3). Primary emphasis is on students understanding multiple perspectives in a global society and developing multiple modality, culturally aware curriculum experiences. Designed to provide disciplined inquiry into critical experience “to become more responsive to the human condition, cultural integrity and cultural pluralism in society” (NCATE, 1982, p. 14). Emphasizes diversity issues in education and the development of a knowledge base to support culturally responsible pedagogy. Prerequisite: Graduate standing or departmental consent.

712. Environmental Education. (3). Provides basic information on environmental issues which can be addressed in the classroom. Become familiar with a wide range of resources for both teachers and their students. Stresses applying environmental issues to everyday teaching.

713. Agriculture in the Classroom. (2). K-12 teachers learn about agricultural and develop ways to integrate that information into their everyday teaching. Includes presentations, field trips and projects showing how the food chain industry touches every person’s life. Teachers learn to integrate agricultural information into existing teaching basic subjects like math, language arts, social studies, science, art.

714. Activities for Human Relations I. (3). Students examine values, communications and creativity. Activities in the above areas can be used by individuals and groups in instructional settings to explain, teach and enhance human relationships.

715. Activities for Human Relations II. (3). Students cover introductory activities, cooperation and self-awareness which can be used by individuals and groups in instructional settings to explain, teach and enhance human relationships.

717. The Ethnography of Schooling. (3). Through readings, guided experiences in research and field work, graduate students become familiar with qualitative research approaches in education, with emphasis on case study methodology and expertise in non-participant and participant observation, constant comparative analysis and reporting research. Prerequisite: Admission to Graduate School.

725. Improvement of Instruction in Science. (3). Students identify and explore the principles of science that teachers should recognize, understand, and consider from K-9. Prerequisite: CI 402.

734. Literature-Based Reading Programs. (3). Students examine specific methods for developing a literature program with children (pre-school—elementary years) with specific emphasis on extending literature and media through the reading environment, language arts, the arts and creative expression. Prerequisite: CI 705 and graduate standing.

735. Introduction to the Gifted. (3). Students are introduced to the historical and socio-educational perspectives germane to gifted education, and provides an overview of the characteristics and learning needs of high aptitude students. For administrators, teachers or anyone interested in gifted education. Prerequisite: graduate standing.

740. Introduction to Early Childhood Handicapped. (3). Students are provided a basic introduction to the emerging field of early intervention for handicapped children and their families. Prerequisites: CESP 728 and CI 761.

750. Workshops in Education. (1-4).

751, 752, 753, or 754. Special Studies in Education. (1-3). For elementary and secondary school teachers. Repeatable with advisor’s consent. Prerequisite: teacher certification or departmental consent.

760. Parent Education. (3). An introduction to ways of working with parents of preschool and elementary children and an analysis of formal and informal approaches emphasizing the teacher’s role in developing these procedures.

761. Early Childhood Education. (3). Students examine programs, problems and philosophy of educating children in the preschool years.

762. Instructional Strategies: Preschool Education. (3). Students examine the content and methods of instruction in preschools and observe/teach in a variety of settings. Students study teaching methods for preschool children and prepare materials to enhance the learning experiences of these children. Prerequisite: CI 761.

763. Teacher/Child Relations. (3). Students develop skills for effective communication with children from birth to age eight, emphasizing helping the child build a positive self-image and a positive relationship with others.

764. Day-Care Services. (3). Students gain insight into instructional methods and operational procedures for day-care center workers.

770. Introduction to Macintosh Computing. (1). Provides basic Macintosh skills appropriate for classroom use. Covers mouse skills, desktop menu, managing documents and folders, managing floppy and hard disks and simple word and data processing. Teachers with little or no experience on a Macintosh should enroll in this workshop before taking Instructional Applications workshops or courses. Graded S/U.

771. Technology in the Classroom. (1). Introduces classroom teachers to current technologies such as scanning equipment, telecommunication, integrated media, videodiscs and CD-ROM. Field trips and speakers expose teachers to new technology. Prerequisite: CI 770 or instructor’s consent. Graded S/U.

772A. Instructional Applications: Apple IIe. (1). An introduction to the Apple IIe computer in the classroom. Students learn about Apple IIe hardware, care of hardware and software, network inlays, an Apple IIe lab, software appropriate for Apple IIe, word processing, desktop publishing on the Apple IIe and LOGO. Graded S/U.

772M. Instructional Applications: Macintosh. (1). An introduction to how the Macintosh computer can be used in the classroom. Learn how to use word processing, graphics, simple desktop publishing, basic database applications, HyperCard, teacher utilities and productivity programs to facilitate learning in the classrooms. Integrated media is introduced and demonstrated. Prerequisite: CI 770.

773. Instructional Applications: HyperCard. (2). Introduces the classroom teacher to HyperCard as an instructional resource. Learn basic HyperCard tools and elements, how to create stacks and how HyperCard can be used to control CD-ROM and laserdiscs. Prerequisite: CI 770 or instructor’s consent.

774. Special Projects in HyperCard. (1). Design and complete an independent project for use in the classroom. Using HyperCard. Prerequisite: CI 770 or instructor’s consent.

775. Instructional Applications: Desktop Publishing. (2). Learn how to use student and teacher-produced desktop publishing in the classroom. Learning publishing programs for elementary, middle and secondary levels are introduced. Students should have a basic working knowledge of the Macintosh computer and some experience with word processing. Prerequisite: CI 770 or instructor’s consent.

776. Special Projects in Desktop Publishing. (1). Use desktop publishing to produce materials appropriate for the classroom. Objectives and evaluation will be determined on a contract basis. Prerequisite: CI 770 or instructor’s consent. Corequisite: CI 775.

777. Instructional Applications: Introduction to Spreadsheets. (2). Become competent in use of computer spreadsheets and apply them to classroom computers. This course begins with the basics and build toward application. Prerequisite: CI 770 or instructor’s consent.

778. Special Projects in Spreadsheets. (1). Apply knowledge of spreadsheets to classroom instruction. Emphasis given to writing simulations, templates for receiving data, custom gradebooks, student performance contracts and data analysis. Evaluation is based on independent projects. Must have experience with spreadsheets or instructor approval to enroll. Prerequisite: CI 770 or instructor’s consent.

779. Instructional Applications: Telecommunications. (1). Introduce the classroom teacher...
to instructional applications of telecommunication. Learn about electronic bulletin boards, on-line services, types of modern and telecommunication with the Macintosh, Apple Ile and MS-DOS computers. Field trips demonstrate how telecommunication is used beyond the classroom.

80C. Computers and the Young Child. (1). Learn to use the computer with children in preschool through second grade. Appropriate software is evaluated and used in planning for instruction. Prerequisite: CI 770 or instructor’s consent.

80D. Computers in Special Education. (1). Covers assistive and adaptive devices used with Apple Ile and Macintosh computers in the special education classroom. Learn to make decisions about applicability of computer technology for special education students. Prerequisite: CI 770 or instructor’s consent.

80J. Computers in Social Studies. (2). Introduces classroom teachers to application of computer technology, CD-ROM and laserdisc technology in the social studies curriculum. Appropriate software is evaluated and used in planning for instruction. Prerequisite: CI 770 or instructor’s consent.

80L. Computers in Language Arts. (2). Enables classroom teachers to utilize computers and related technology in the language arts curriculum. Appropriate software is evaluated and used in planning for instruction. Prerequisite: CI 770 or instructor’s consent.

80M. Computers in the Math Classroom. (1). Focuses on the integration of software programs designed for middle and high school mathematics classrooms. Explore software and instructional activities which support math at the middle and high school levels using Apple Ile and Macintosh systems. Prerequisite: CI 770 or instructor’s consent.

805. Computers in Science. (2). Introduces classroom teachers to application of computer technology, CD-ROM and laserdisc technology in the science curriculum. Appropriate software is evaluated and used in planning for instruction. Prerequisite: CI 770 or instructor’s consent.

81. Computers as a Management Tool. (1). Covers computerized IEPs, portfolio assessment, gradebook programs and database management for the classroom teacher. Apple Ile and Macintosh platforms included. Prerequisite: CI 770 or instructor’s consent.

85. LOGO Implementation. (2). Acquaints students with the philosophy of LOGO, teach the LOGO language in its classroom applications and develop curricular activities which stress problem solving and programming techniques. Prerequisite: CI 770A or equivalent.

881. Structured BASIC. (2). Designed to help middle school and high school teachers integrate computer applications utilizing structured BASIC programming techniques into science, business and mathematics programs such as University of Chicago Mathematics Project. Also prepares secondary teachers to teach beginning programming courses in secondary schools. Techniques include top-down programming, modularization, subroutines, debugging, documentation preparation and different data types including string, integers, and real numbers and file manipulations. Prerequisite: CI 772A or equivalent.

790. Special Problems in Education. (1-4). Directed reading, activity or research under supervision of a graduate instructor. Prerequisite: departmental consent.

791. Instructional Strategies: Methods of Computer Related Instruction in Middle and High School. (2). Investigate teaching and learning strategies related to the use of computers in the middle and high school classrooms. Topics include the design and management of instructional activities related to software integrations, programming and the development and assessment of computer-related student competencies. Prerequisite: 9 hours completed in computer studies endorsement program and one required programming course.

792. Multimedia in the Classroom. (2). Students are placed in the classroom and supervised by a university instructor, trained by practicing teachers and gain practical experience in designing and implementing an integrated media project. Prerequisite: 9 hours completed in computer studies endorsement program.

Courses for Graduate Students Only

807. Philosophy, History and Psychology of Secondary and Elementary Education. (3). Students survey of concepts of mind, learning, experience and knowledge, and philosophical, historical and psychological systems and theories as they relate to current educational problems and practices. Prerequisite: CI 701.

808. Sociology of Education. (3). Students explore the relationship between education and society. Prerequisite: CI 701.

821. Classroom Reading Practicum. (3). Students participate in a practicum experience, delivering developmental and corrective reading instruction in a classroom setting. Prerequisite: CI 705.

823. Applied Behavior Analysis. (3). Behavior management strategies specifically needed by classroom teachers to affect academic and social outcomes. Addresses technical, theoretical and practical aspects of applied behavior analyses. Prerequisites: CI 320 and 886.

835. Instructional Models and Practices. (3). For teachers to (1) explore the theories behind, the development of, and the syntaxes for viable instructional practices; (2) apply instructional models to the analysis and evaluation of various learning environments; and (3) to develop a commitment to the reflective practitioner to more effective instruction through an expanded and integrated repertoire of teaching strategies. Prerequisite: admission to Master’s of Education in Curriculum and Instruction, CESP 801.

845. Curriculum Models and Practices. (3). Examines theories, development processes, evaluation procedures and current practices in curriculum. The emphasis is on multiple conceptual frameworks for thinking about curriculum and reflective inquiry into the implications of those frameworks in today’s classrooms and schools. Prerequisites: admission to Master’s of Education in Curriculum and Instruction, CESP 801.

847E. Practicum: Learning Disabilities. (3-6). Provides students with full-time participation in a class for learning disabled children/adolescents supervised by a master teacher and University professor, emphasizing applied teaching methods for the learning disabled, formal-informal psycho-educational assessment, curriculum strategies, behavior management and prescriptive remediation for academic deficits. Prerequisite: CI 866 and 888.

847H. Practicum in Center-Based/Home-Based Early Childhood Handicapped (ECH). (3). Provides opportunities for the student to develop clinical competencies with handicapped young children and their parents under the supervision of trained professionals in the field and while working in the center and the homes of the client children. Prerequisites: CI 740, 847H, 891, CDS 813 or CI 760 and departmental consent.

847J. Practicum: Educable Mentally Handicapped. (3-6). Provides students with full-time participation in a class for educable mentally handicapped children/adolescents supervised by a master teacher and University professor, emphasizing applied teaching methods for the mildly handicapped students, formal-informal psycho-educational assessment devices, curriculum strategies, behavior management and prescriptive remediation for academic deficits. Prerequisite: CI 866 and 888.

847K. Practicum: Behavior Disorders. (3-6). Provides students with full-time participation in a class for emotionally disturbed children/adolescents supervised by a master teacher and University professor, emphasizing applied teaching methods for the mildly and severely disturbed, formal-informal psycho-educational assessment devices, curriculum strategies, behavior management and prescriptive remediation for academic deficits. Prerequisites: CI 866 and 888.

847M. Practicum: Gifted. (3-6). Stresses applied teaching approaches. Provides opportunities to apply various theoretical, structural and technological methodologies related to the education of the gifted learner. Prerequisites: CI 725 and 883.

847R. Practicum: Regular Early Childhood. (3). Provides opportunities in a traditional setting for the student to develop competencies with young children by working in a classroom setting with a trained professional. Prerequisites: CI 761 and 762.

853. Improvement of Instruction in Language Arts. (3). Students examine recent developments in the teaching of language arts in elementary and/middle school grades: problems, concerns, methods, materials and research related to listening and oral, written and visual communication including "school" writing and creative writing.
854. Improvement of Instruction in Social Studies. (3). Students examine recent changes in social studies curriculum and instruction to investigate strengths and limitations of various approaches. Stresses competency in teaching for concept development, dealing with value-laden issues and teaching for inquiry. An inquiry-centered learning environment emphasizes personalizing the social studies curriculum for children. Alternative teaching strategies and complementary evaluative techniques are reviewed and practiced.

856. Improvement of Instruction in Mathematics. (3). Students examine recent trends in subject matter content and teaching guides to improve understanding of meanings, vocabulary and mathematical concepts. Includes instructional methods and materials.

859 A-M. Seminars in Curriculum and Instruction. (1-3). Seminars deal with current issues, topics, trends, and problems in curriculum and instruction. Seminars engage students actively in the conduct or reading of scholarship and/or research related to the topic. Subject specific seminars focus on particular aspects of instruction; research, development, and scholarship. The focus and nature of the intended skill development are clearly identified in the description on each seminar. A maximum of two hours can be applied to the Master of Education in Curriculum and Instruction. Prerequisite: admission to Master of Education in Curriculum and Instruction; CI 860, CESP 801.

860. Seminar on Research Problems. (3). Helps MEd students formulate either an agenda for the development of a professional portfolio, or an acceptable proposal for a major's thesis in order to satisfy the applications requirement for the MEd in Curriculum and Instruction. Prerequisite: admission to MEd in Curriculum and Instruction; CI 860, CESP 801.

862. Professional Portfolio Development. (2). Students develop the professional portfolio proposed and accepted in CI 860. In consultation with their portfolio adviser and other faculty members, students proceed with their approved agendas. Prerequisite: CI 860.

863. Presentation of Professional Portfolio. (2). Students complete, present to their faculty portfolio committee, and orally defend the professional portfolio proposed in CI 860. Prerequisites: CI 860 and CI 862 (or concurrent enrollment in CI 862).

870. Trends in Early Childhood Education. (3). Students analyze current early childhood education research with an in-depth study of contemporary programs influencing the education of young children.

875-876. Master's Thesis. (2-2). Students complete their research proposal that was accepted by their thesis committee. Also required is the completion and oral defense of the student's thesis. Students work closely with their advisor and committee. Students needing an additional semester to satisfy these requirements should enroll in CI 876. Students receive credit for course(s) when their thesis has been completed and defended. Prerequisite: CI 860.

883. Methods: Gifted Education. (3). Students plan for a qualitatively differentiated curriculum to meet the unique needs of the gifted learner. Explores a variety of suitable program models including grouping, acceleration, guidance and combinations of these. Prerequisite: CI 735.

887. Assessment and Analysis of the Learner. (3). Students learn the application of standardized and informal evaluation techniques including critical evaluation of standardized tests and their appropriateness for special populations (including learning disabled). Alternative methods of assessment and intervention techniques based on diagnostic profiles. Prerequisites: CI 886 or CI 705 or CI 735 or CI 740.

888. Methods: Mletly Handicapped. (3). Students master 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. Prerequisites: CI 886 and acceptance into the Master of Education, special education for mildly handicapped.

892. Methods: Early Childhood Handicapped. (3). Students demonstrate and discuss current procedural strategies and materials used cross-categorically with specific categorical groups and across domains in early intervention. Concurrent enrollment in an early childhood special education practicum is strongly recommended. Prerequisites: CI 728, 740 and 761.

894. Advanced Topics in Early Childhood Handicapped. (1-4). Students participate in topical seminars in early intervention offered periodically to facilitate opportunities for the in-depth study of critical issues or topical research in the rapidly developing field. Prerequisites: CI 740, 761, 762, 8478, 887, and 892 or instructor's consent. Repeatable for credit.

Health, Physical Education, and Recreation

Physical Education Teacher Preparation

Students majoring in physical education/K-12 teacher preparation must meet the general education requirements, the professional education requirements of the College of Education, and the physical education major requirements. This program provides students a scientific and practical background upon which to base teaching content and methods. The program addresses the importance of implementing sound curricula for children of all ages. Graduates qualify for Kansas teacher certification in physical education (K-12).

All students majoring in health, physical education, or recreation must meet the College of Education entrance requirement.
may be repeated for credit. Students should consult their college requirements to ascertain whether the activity credits will count in a specific program.

Lower-Division Courses

111. Foundations in Physical Education, Sport and Fitness. (2). Introduction to the history, principles, philosophy, and foundations of physical education with concomitant outgrowths for modern society.

115. Personal and Community Health. (3). Introductory course to study the multiple dimensions of personal health and the outside forces that shape health, lifestyle, disease, aging, death and dying. Responsibilities for one’s health is fostered through the use of wellness inventories, lifestyle assessments, nutritional analyses and goal-setting.

117. Standard First Aid and Community CPR. (2). Standard first aid and community cardiopulmonary resuscitation with certification by the American Red Cross.

150. Workshop. (1-3).

152. Special Studies in Health, Physical Education and Recreation. (1-3). Group study activities in the selected areas of health, physical education or recreation. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

201A. Introduction to Activities. (2). Introduces the major student to the basic skills of badminton, tennis, and flag football.

201B. Introduction to Activities. (2). Introduces the major student to the basic skills of golf, bowling, archery, and wrestling.

201C. Introduction to Activities. (2). Introduces the major student to the basic skills of softball, volleyball, and activities for middle school.

201D. Introduction to Activities. (2). Introduces the major student to the basic skills of soccer, basketball, and fitness activities.

201E. Introduction to Fitness Activities. (2). Introduction to activities appropriate for fitness/wellness programs. Prerequisite: departmental major or departmental consent.

201F. Introduction to Gymnastics. (2). Basic skill development, teaching techniques and progression appropriate for K-12 grades in gymnastic activities.

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.

270. Motor Learning. (3). The introduction and examination of the physiological and psychological factors that affect the acquisition of motor skills.

280G. Fitness for Life. (2). 1R; 2L. Division B course/elective. The whys and hows behind activities designed to develop and maintain the muscular and cardiovascular 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 an understanding of exercise, weight control, cardiovascular disease and fitness parameters.

Upper-Division Courses

306. Emergency Water Safety and WSI Training. (2). Meets American Red Cross standards for certification in Emergency Water Safety and WSI Instructing Training. Student must show proficiency at the American Red Cross Swim-Skill level within three weeks after enrolling. Prerequisite: PE 107A or departmental consent.

310. Methods in Physical Education. (3). Presentation and participation in methods of teaching physical education, emphasizing techniques, skills, organization of activities and classroom procedures. Prerequisites: PE 270 and 201A, B, C, D and admission to teacher education block.

311. Methods and Techniques I. (3). Methods, techniques, teaching progression, analysis and skill development of badminton, tennis, flag football, golf, bowling, archery and wrestling. Requires thirty hours of field experiences and observation in selected middle schools. Prerequisite: PE 310.


327. Physical Education in the Intermediate Grades. (3). 3R; 2L. Final course in the series designed for an emphasis in elementary school physical education. Assists students in developing the necessary skills to teach physical education in grades 3-6. Includes 15 hours in laboratory experiments with intermediate grade school children. Prerequisite: PE 310.

328. Kinesiology and Biomechanics. (3). The understanding of the kinesthetics and mechanics of human motion with respect to performance of sport activities. Prerequisite: PE 229 or equivalent.

331. Athlete Injuries and Training Techniques. (2). 2R; 1L. Injuries common to athletic activities, emphasizing prevention, first aid treatment and care as prescribed by the team physician. Prerequisite: PE 229 or equivalent.


337. Theory and Organization of Track and Field. (2). The theory, organization, responsibilities and techniques of coaching track and field.


360. Adaptive Physical Education. (2). Assists 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 class-time, students participate in at least two hours per week in observations and physical activity with persons impaired, disabled or handicapped. Prerequisite: PE 229 or equivalent and admission to teacher education block.


431. Advanced Athletic Training Techniques II. (3). Emphasizes athletic injuries of the head, neck and trunk. Special problems, nutrition and exercise programs also are studied. Development of advanced athletic training skills.

432. Athletic Training Lab I, II, III, IV. (1). 1L Laboratory course designed to provide practical learning experiences in the prevention, first aid and care of athletic injuries. May be repeated.

440. Concepts in the Prescribing of Exercise. (3). An introduction to 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 outside the class. Prerequisite: PE 530 or equivalent.

460. Practicum—Sports Business. (3). Integrates course work with planned and supervised professional experiences for a minimum of 15 hours per week. Prerequisites: 2.50 GPA, junior standing, and admission to College of Education.

470. Fitness Practicum. (3). Application of theoretical principles 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, 530; a 2.50 GPA or departmental consent.

471. Student Teaching—Physical Education—Secondary. (4). Prerequisite: completion of all courses in major field.

472. Student Teaching—Physical Education—Elementary. (4). Application for student teach-
ing must be made to the coordinator of laboratory experiences prior to the semester in which the student intends to enroll. The assignment for student teaching begins with the opening of the public schools, and the student is expected to follow the public school calendar for a semester. Prerequisites: completion of all classes in the major field.

473. Student Teaching Seminar. (1). A weekly seminar evaluates strategies for managing classrooms and assesses instructional strategies. Students also discuss the employment process and the requirements for teacher certification. Prerequisite: Concurrent enrollment in PE 471 and PE 472.

481. Cooperative Education. (4). Allows students to participate in the Cooperative Education program. Offered Cr/NCr only. Prerequisite: 2.500 GPA and admission to College of Education.

Courses for Graduate/Undergraduate Credit

500. Health Education K-12. (3). Goal is to provide practical applications of theoretical models of change for the health field. Discusses health problems, strategies for affecting change and outcome assessment. Develops selected instructional materials. Two field trips are taken to preselected local health agencies. Additional projects are required for graduate students. Prerequisites: PE 310 and admission to teacher education block.

502. Applied Health II. (2). Intensive study of selected health problems with regard to illness prevention and the present state of world health. Prerequisite: PE 502 or departmental consent.

504. Applied Health II. (2). Intensive study of selected health problems with regard to illness prevention and the present state of world health. Prerequisite: PE 502 or departmental consent.

510. Rhythmic Activities. (2). Teaches methodology and curricular content of rhythmic activities appropriate for elementary and middle school children. Prerequisites: PE 211 and admission to teacher education block.

530. Physiology of Exercise. (3). 3R; 1L. Provides the student with a working knowledge of human physiology as it relates to exercise. Prerequisite: PE 229 or equivalent.

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. Prerequisite: PE 201E or PE 111 and 201A or B.

540. Seminar in Sport Business. (3). Integrates the knowledge base of sport and business as they apply in the practical setting. Prerequisite: 2.5 GPA, admission to COE, PE 460, and senior standing.

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.

547. Internship in Sport Business. (8). Culminating activity for students in the field option sport business specialization. Students spend the equivalent of full-time employment in the appropriate agency for a total of at least 520 hours. Prerequisites: PE 481, 2.500 GPA overall and in major, and admission to College of Education.

557. Internship in Fitness/Wellness. (8). Culminating activity for students in the field option specialization. Students spend the equivalent of full-time employment in the appropriate agency for one full semester. Prerequisites: senior standing, departmental consent, PE 470, 2.500 minimum GPA overall and for major, admitted to College of Education.

590. Independent Study. (1-3). Prerequisite: departmental consent.

750. Workshop in Education. (1-4).

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.

760. Sport in Society. (3). Impact of sports on American culture, with focus on competition, economics, mythology, education, religion, ethics, professional sports, sports and minorities.


780. Cooperative Education Field Study. (1-8). Goal 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.

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.

801. Leadership and Management in Sport. (3). Initial introduction into the administration of sports in public schools, institutions of higher education and professional and commercial sports organizations. Learn about the various components of sports administration by reading appropriate materials and entering into dialogue with practicing administrators.

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. Provides laboratory experience. Prerequisite: PE 328 or departmental consent.

812. Advanced Techniques in Physical Education. (3). Comprehensive coverage of selected physical activities, with special emphasis on class procedures. Includes laboratory experiences.

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. Requires out of class laboratory experiences. Prerequisites: PE 530 or equivalent and graduate standing.

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.

830. Advanced Physiology of Exercise. (3). Introduces the physiological basis of exercise. Includes energy metabolism, cardiovascular function, and regulation during rest, steady state and exhaustive physical activity. Special emphasis given to immediate and long term adaptation to exercise and training. Prerequisite: PE 530.

835. Legal Issues in HPER. (3). Acquaints the graduate student with legal research and the role that law plays in governing the sport and fitness industries. Actively research various theories of law and how they affect the nature of sport, fitness activity, the participants and consumers. The basic concept of negligence utilizing illustrative cases from sports, physical education and fitness activities is intensely investigated. An additional focus is on specific situations regarding injury and subsequent lawsuits.

847. Internship. (6-12). Internship in selected areas of specialization in exercise science or sports administration. Prerequisite: departmental consent.

857. Internship in Exercise Science/Wellness. (6). Internship in selected area of specialization within the exercise science/wellness program. Students spend the equivalent of full-time employment in the appropriate agency for one full semester. Prerequisite: departmental consent.

860. Research Methods in Health, Physical Education and Recreation. (3). Examination of research methodology as related to topics in health, PE, recreation, sports studies and exercise science/wellness. Includes review and critical evaluation of the literature, research design and statistical processes, methodology, data collection techniques, computer-based analysis of data and thesis/report writing. Students design and complete a mini-research project.

875. Thesis Research. (1-2). Development of a research problem and proposal with the direction of a graduate faculty member. Repeatable but total credit hours counted toward degree requirements must not exceed two. Prerequisites: admission to graduate school in good standing, PE 860 and departmental consent.

876. Thesis. (1-2). Repeatable but total credit hours counted toward degree requirements.
must not exceed two. Students must be enrolled in this course during the semester in which all requirements for the thesis are met. Prerequisite: PE 875 and consent of the student’s committee chair.

880. Analysis of Motor Skills. (3) Movement and sport skills analyzed in terms of mechanical principles by means of films and experimentation.

890. Problems in Health, Physical Education and Recreation. (1-4) Directed reading and research under supervision of a graduate instructor.

Physical Education—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.

Lower-Division Courses

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. Provides insights into fundamental concepts, values and functions of leisure and recreation.

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 professionals. Prerequisite: PE-R 112.

226. Program Design and Leadership Methods. (3) Introduces the concept of program leadership and recreation planning. Provides basic skills in program development and supervision as a foundation for future recreation skills and professional courses. Prerequisite: PE-R 112 and 126.

227. Recreation for the Aged. (3) Characteristics of the aged; role of therapeutic recreation with the aged in institutional and community settings. Prerequisite: PE-R 112.

Upper-Division Courses

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.

427. Internship in Recreation. (8) Students are assigned to 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/or supervision. Prerequisite: PE-R 112.

481. Cooperative Education. (1-8) Allows students to participate in the Cooperative Education program. Offered Cr/NC only. Prerequisite: PE-R 112.

Industrial Technology

Special Notice: The 1994 Fall Semester will be the final semester for students to declare Industrial Technology as a major field of study. The College of Education will continue to offer courses leading to the completion of the degree program through the 1997 Spring Semester.

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 allows 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 manage technical, managerial and production problems.

The Bachelor of Science degree in Industrial Technology requires the development of technical skills at postsecondary schools other than 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.

Opportunities in industry may include production or construction supervision, quality assurance, process management, systems analysis, production control, cost estimating, purchasing, product design, industrial relations, tool design, prototype development and technical communications.

Admission to the industrial technology program requires a 2.500 grade point average. Students who fail to make satisfactory progress in their studies are governed by College of Education policies on probation and dismissal.

Undergraduate Minor—Technical Emphasis. This minor requires a minimum of 18 semester hours. Courses must be chosen in consultation with a department adviser.

Second-Field Teaching Endorsement. The department offers a three-course sequence resulting in a second-field endorsement in Principles of Technology. The prerequisites for the sequence are usually satisfied if the original teaching endorsement is in science or mathematics.

Graduate Courses. The Master of Education program in Curriculum and Instruction provides for 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 major in Industrial Technology requires:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Education*</td>
<td>42</td>
</tr>
<tr>
<td>Technical specialty (transferred)</td>
<td>30</td>
</tr>
<tr>
<td>Industrial Technology courses</td>
<td>45</td>
</tr>
<tr>
<td>Supplemental required courses</td>
<td>15</td>
</tr>
<tr>
<td>Total Hours</td>
<td>132</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.

Lower-Division Courses

112. Construction Technology. (3) R; 3L. Emphasizes the understanding of technology and the scope of industry as it applies to construction. Includes occupationally oriented lab-
principles of electricity and electronics as related to home and industry. Emphasizes electrical theory, transmission and utilization. Laboratory activities include experimentation and fabrication of electrical components.

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.

310. Safety, Product Liability and Litigation. (3). The study of corporate policies as related to accident prevention programs for safety and occupational health from the perspective of the industrial technologist. Emphasizes safety, education, product liability and litigation. Prerequisite: departmental consent.

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 are provided. Prerequisite: departmental consent.

325. Woodwork III. (3). For advanced woodwork students with special emphasis on tools, materials and construction practices as they relate to the building trades. Prerequisite: I. Tec. 240.

328. Drafting III. (3). Development of working drawings in machine, aircraft, structural steel, electrical, architectural details, pipe, map and patent drawings—all conforming to industrial and prescribed standards. Prerequisite: I. Tec. 121.

330. Manufacturing: Estimating, Planning and Scheduling. (3). Production, planning and scheduling of human resources in relation to facilities, tools, equipment, capital and materials. Emphasizes computer data base information to enhance standardized techniques used in product and service management. Prerequisite: departmental consent.

331. Metals II. (3). For a study of materials, machines and hand tools used by the metalworking industry and intermediate machine tool operations. Prerequisite: I. Tec. 230.

337. Metals III. (3). 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. Emphasizes combining metals by oxyacetylene, arc, MIG and TIG welding techniques. Prerequisite: I. Tec. 230.

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 are explored and a framework developed for making wise choices within the options. This course may not be counted toward an industrial education major.

341. Woodwork IV. (3). A study in design, construction and finishing of woodworking projects emphasizing woodworking machine tools, including methods and processes used by industry. Prerequisite: I. Tec. 240.

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 ability to implement that contractual understanding.

351. Power Mechanics II. (3). A study of motor vehicles including tune-up, electrical systems, fuel systems and engine service.

360. Industrial Design Technology. (3). An introduction to industrial design techniques emphasizing the pertinent elements of design and the procedural steps in designing products related to construction and manufacturing. Prerequisite: departmental consent.

361. Plastics II. (3). Technical information and product development and construction of molds and forms for molding, casting, laminating and thermoforming. Prerequisite: I. Tec. 260.

362. Plastics III. (3). Advanced problems in production techniques, compression and injection moldings; recent developments and experimental work. Prerequisite: I. Tec. 260.

375. Industrial Production Management. (3). An overview of the techniques and procedures used in making decisions related to the production function of an industrial organization. Includes plant layout, forecasting, scheduling, quality control and inventory planning and control. Prerequisite: departmental consent.

381. Electronics I. (3). 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 experimentation and project construction. Prerequisite: I. Tec. 280.

384. Electronics III. (3). Includes the theory, instrumentation and application of semiconductors in electronic circuitry. Emphasizes utilization of integrated circuits in digital applications. Prerequisite: I. Tec. 381.

400. Computer Applications in Industry. (3). Introduction to computing methods, understanding and appreciation of micro- and mini-computer capability that impacts upon industry. Prerequisites: CS 105 or 110Q or equivalent.

420. Machine Control Systems. (3). The control of industrial machines through electromechanical devices. An overview of the functions that make up automation systems—open loop, closed loop, continuous and semi-continuous process and discrete parts. Programmable computers, programmable controllers and robotic applications are all included. Prerequisite: departmental consent.

426. Woodwork IV. (3). Advanced work for specialists in the woodworking field
emphasizing problems growing from the needs of the student. Prerequisite: I. Tec. 341.

429. Drafting IV. (3). 2R; 3L. Advanced study for drafting students emphasizing problems growing from the needs of the students based on past performances and progress. Includes complete detailing and machine problems emphasizing industrial practices and procedures. Prerequisite: I. Tec. 328.

430. Product Development. (3). An application course for industrial personnel involved in product development. Emphasizes the "team" approach in formulating ideas, screening techniques, market research, feasibility studies, profit determination, building prototypes, productivity, and performance testing. Prerequisite: departmental consent.

443. Methods of Teaching in the Comprehensive General Shop. (3). 2R; 3L. Preparation for teaching industrial technology in the comprehensive general shop. Emphasizes theory, organization, and operation of a comprehensive general shop program. Spring semester only. Prerequisite: departmental consent.

450. Metals IV. (3). 2R; 3L. Fundamentals of bench work and basic operations of lathes, mills, grinders, shapers, and drills. Prerequisite: I. Tec. 331.

457. Power Mechanics IV. (3). 2R; 3L. Advanced study in the power mechanics field emphasizing problems growing from the needs of the student. Prerequisite: departmental consent.

463. Plastics IV. (3). 3R; 3L. Advanced problems in production techniques. Includes extrusion, rotational casting and foaming, and explores recent developments and experimental work. Prerequisite: I. Tec. 362.

470. Industrial Organizational Analysis. (3). An analysis of industrial concepts, models and organizational structures. Course work relates to concurrent cooperative education experience. Prerequisite: concurrent enrollment with I. Tec. 481-A.

480. Applied Problem Solving. (3). Synthesis of previous coursework in technical and managerial problems relative to the students' area of technical emphasis. Techniques with which the student can address problems in a logical, systematic sequence. Stresses group participatory problem-solving strategies. Prerequisite: concurrent enrollment in I. Tec. 481-B or departmental consent.

481. Cooperative Education. (1-3). Allows students to participate in the Cooperative Education program. Offered Cr/NC only.

481-A. Cooperative Education—Part 1. (4). The first of three required courses designed to develop both the managerial and technical skills of the student participant. Provides students an opportunity to obtain experience with state-of-the-art industrial technology. Emphasizes technology, specific employers, pursuit educational inquiry into marketing production, industrial relations and management. Prerequisites: junior standing and concurrent enrollment in I. Tec. 470.

481-B. Cooperative Education—Part 2. (4). The second of three required courses. The students' level of experience in their technical specialty and their experience in I. Tec. 481A determines the appropriate co-op placement. Emphasizes both application and theory through involvement with specific problems in business and industry. Job requirements and employer expectations should increase concurrently with the students' academic progression. Prerequisites: I. Tec. 481A and concurrent enrollment in I. Tec. 480.

481-C. Cooperative Education—Part 3. (4). The third of three required courses. A culmination field experience in which the student, in cooperation with the participating employer, identifies an existing problem and designs and presents an operational solution. Prerequisites: I. Tec. 481-B and concurrent enrollment in I. Tec. 490.

485. Electronics IV. (3). 2R; 3L. Motors and generators; control systems; servocontrol devices; microwave systems; microwave transmitters, microwave mixers; multplexers; radar navigation systems. Prerequisite: I. Tec. 384.

490. Senior Problems in Industrial Technology. (3). Provides a format for faculty participation and guidance in the identification, research, and solution of an industrial problem. Culminating course in the department prior to graduation. Prerequisites: I. Tec. 481-A, 481-B and concurrent enrollment in 481-C.

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. Requires a comprehensive written paper conceptually identifying research and development, finance, marketing, production, and industrial relations. The paper involves a comparison of the theoretical to the state-of-the-art in a local industrial firm. A one-hour group conference is held on campus weekly for purposes of directing student perception. Course may be repeated by selecting specific areas from the industrial principles listed above.

501. Preparation of Instructional Materials. (3). The selection, development, and organization of instructional materials for effective teaching of industrial technology.

519. Shop Planning and Organization. (3). Selection, purchase, organization of shop equipment and supplies. Also includes developing and maintaining necessary records and reports and planning shop facilities.

570. Directed Studies in Materials and Processes. (3). Provides an opportunity for the advanced student to pursue an area of emphasis within the realm of materials and processes on a synthesis level. The method of study is research, basic and applied, or a combination thereof, in consultation with the professor; culminating in a research project and/or report. Prerequisite: departmental consent.

572. Basic N/C Programming. (3). Lecture/laboratory course provides instruction in numerically controlled machine tool design, utilization programming, tooling and operation. Prerequisite: six hours machine tool operations or equivalent.

575. Composite Material Applications. (3). An introduction to the description and application of composite materials. Prerequisite: postsecondary course in plastics or equivalent industrial experience.

580. Directed Studies in Power and Energy. (3). Provides an opportunity for the advanced student to pursue an area of emphasis within the realm of power and energy on a synthesis level. The method of study is research, basic and applied, or a combination thereof, in consultation with the professor; culminating in a research project and/or report. Prerequisite: departmental consent.

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 is research, basic and applied, or a combination thereof, in consultation with the professor; culminating in a research project and/or report. Prerequisite: departmental consent.

592. Desktop Publishing. (3). Desktop publishers control the entire publishing process from creation and typesetting to printing and distribution. Emphasizes the use of the personal computer and laser printing as part of the desktop publishing revolution. Stresses type design, harmony, legibility, copy fitting and layout fundamentals.

594. Offset Lithography. (3). Principles and techniques of preparing computer-generated and other original copy, processing lithographic negatives and plates, as well as operating offset printing presses. Includes laboratory. Prerequisite: departmental consent.

596. Introduction to Computer Aided Drafting (CAD). (3). Interactive computer graphics course that provides hands-on experience and basic information necessary for students to implement, modify and use a computer graphics system. Enables students to learn methods of input and output and teaches the fundamentals of CAD using various microcomputer based CAD system applications. Demonstrates mainframe CAD system applications.

597. VersaCAD. (3). Introduction to CAD is designed to give an individual with no previous CAD background an exploration experience in Computer Aided Drafting. Introduces VersaCAD software to the students who complete a workbook of sample drawings designed to cover the major operations of the software. After the sample drawings are completed, a major project using the computer is required. Each student receives 64 hours of computer time.

598. AutoCAD. (3). A basic Computer Aided Drafting course utilizing AutoCAD software to produce mechanical and assembly type drawings.
625. Advanced AutoCAD. (3). Conceptual and practical applications of advanced topics in Computer Assisted Drafting and Design. Topics include advanced DOS commands, Script and Batch files, Menu and Tablet customization, pictorials, and 3-dimensional drawings. Prerequisite: I. Tec. 598 or equivalent experience.

635. DeskTop Publishing 2. (3). Extends the student's knowledge with specific pieces of software, publication design, creation of effective business graphics, and electronic page layout principles. Assignments will reflect documents which are typical of business/industrial publications. Prerequisite: I. Tec. 592 or equivalent experience as approved by instructor.

681. Cooperative Education (1-8). A work-related placement that integrates the student's knowledge with specific pieces of software, publication design, creation of effective business graphics, and electronic page layout principles. Assignments will reflect documents which are typical of business/industrial publications. Prerequisite: 2.5 GPA. Repeatable for credit. Offered Cr/NCr.

750. Workshop in Industrial Technology. (1-4). Offered from time to time on various aspects of industrial technology.

751. Institute in Industrial Technology. (1-4). Designed to develop knowledge and competence related to curricular and methodological innovations in industrial education. Content is designed to satisfy those competencies that are identified as essential for teaching a defined subject area. Prerequisite: departmental consent.

785. Instructional Media. (3). Selection, use and production of educational media. Includes instructional design, media planning 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. Assignments involve the design and production of materials for teaching.

790. Special Problems in Industrial Technology. (1-4). Directed reading and research under the supervision of a graduate instructor. Prerequisite: departmental consent.

791. Explorations in Technology. (3). Participants experience the modular curriculum approach for the middle level student, including technical materials, demonstration equipment and specific laboratory equipment. Teachers gain insight into methodologies for proper delivery of the curriculum and gain familiarity with the presentation format and laboratory equipment.

796. Principles of Technology 1 Methods. (3). Prepares teachers to teach Principles of Technology Units 1-7 through experiential familiarity with technical materials, equipment videos and laboratory manuals. Emphasizes presentation format and laboratory equipment. Prerequisite: I. Tec. 796.

799. Principles of Technology 3. (3). Evaluation and synthesis of previous course work, remediation and enrichment of areas of assessed weakness regarding the principles of applied physics. Prerequisite: I. Tec. 797.

Courses for Graduate Students Only

840. Instructional Technology in Industrial Technology. (3). Designed to acquaint graduate students with the emerging technology of instruction. 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 instructional material using systematic procedures. Prerequisite: departmental consent.


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 Engineering

William J. Wilhelm, PhD, Dean

Modern technological developments in engineering have brought about considerable change in the College of Engineering's curriculum at 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 College of Engineering is organized into four degree-granting departments: aerospace, electrical, industrial and manufacturing, and mechanical.

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.

Degrees Offered

Undergraduate

The Bachelor of Science degree programs in aerospace, electrical, industrial, and mechanical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). A new undergraduate program leading to the Bachelor of Science in manufacturing engineering, which is not presently accredited by EAC/ABET, is offered in the industrial and manufacturing engineering department.

Graduate

A Master of Science (MS) is offered in aerospace, electrical, industrial and mechanical engineering. A Doctor of Philosophy (PhD) also is offered by each of the four departments of engineering.

Typical fields of specialization include aerodynamics, fluid mechanics, propulsion, structures, solid mechanics, composites, dynamics and control; communication theory, signal processing, control theory, digital systems, energy and power systems; thermodynamics, heat transfer, engineering materials, engineering design, kinematics; and operations research, management science, manufacturing processes and human factors.

See the Wichita State University Graduate Bulletin for more information about the graduate program.

Policies

Admission

All entering students with a declared interest in engineering will be admitted to the pre-degree program in the College of Engineering. The pre-degree program of study must include the following courses: (a) English 101/100, English 102, and Comm. 111, (b) Math. 242Q, and (c) Physics 313Q or Chem. 111Q, or their equivalents.

Students will be admitted to an engineering degree program when they have satisfied the following requirements:

1. Completion of at least 24 semester credit hours of college-level work with a WSU grade point average of 2.000 or higher and an overall grade point average of 2.000 or higher (for transfer students).

The 24 semester hours must include the above-specified courses in the pre-degree program each with a grade of C or better.

2. Declaration of a specific engineering major.

Students may not continue in the pre-degree program after the semester in which they complete 48 semester hours.

Probation

Students are placed on academic probation if any of the following grade point averages is less than 2.000 and if they have attempted at least 12 hours in that grade point average at Wichita State University: (1) cumulative grade point average of all college/university work, (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, W, Cr, NCr, I, S or U. Academic probation is not removed until all 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 on academic probation are subject to academic dismissal from the College of Engineering if they fail to attain a 2.000 grade point average in the next 12 cumulative hours attempted or nine hours in their major field.

Academic Advising and Enrollment

Students in the College of Engineering are invited to seek academic advice from their advisers or the department chairs any time during the school year. Engineering students are strongly urged to preregister for courses during published preregistration dates to avoid closed classes. Late registration or adding engineering courses will be allowed only during the first week of a regular semester or the first three days of a Summer Session.

Students in the College of Engineering may not enroll in more than 20 hours 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 ensure an equitable distribution of class spaces and to aid each student's timely progress toward a degree, a student who drops a course taught by the College of Engineering 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 spaces 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. Because there are legitimate reasons for qualified
nonengineering students to enroll in an engineering course at the 300 level or above, the academic dean will consider petitions for exceptions to the preceding statement.

Transfer Credit
Students wishing to receive transfer credits for engineering courses taken at other institutions prior to admission to WSU must submit transcripts and course descriptions and syllabi to the College of Engineering for evaluation. Courses considered for transfer credit must have a grade of C or better.

Degree-bound WSU students should speak with an adviser before enrolling in courses at another institution.

Graduation Requirements
All engineering students who are pursuing bachelor's degrees must meet three sets of course requirements for graduation: (A) WSU General Education requirements, (B) College of Engineering requirements, and (C) the Accreditation Board for Engineering and Technology (ABET) requirements. Guidelines for these are given below:

WSU General Education Requirements
(1) Communications skills courses: All WSU students must complete three courses in communication skills: English 101 or 100 (for non-native speakers), English 102, and Communication 111, each with a grade of C or better. All engineering students must complete these three courses before they can be transferred to a degree program in engineering.

(2) Four Core Introductory courses in the disciplines, to include: one course each in the divisions of Fine Arts, Humanities, and Social and Behavioral Sciences, and an additional course in a different discipline in either Humanities or Social and Behavioral Sciences

(3) Two additional courses that are not Core Introductory. One is to be a Further Study course in one of the disciplines in the division in which two Core Introductory courses are taken. The second additional course is to be an Issues and Perspectives course in a different division.

All WSU students also must complete courses in the division of Natural Science and Mathematics; however, because the engineering curriculum requires 34-36 hours of mathematics and natural sciences, engineering students automatically satisfy the requirements in this division.

Refer to the section on the General Education Program of this catalog for a description of the Core Introductory courses, Further Study courses, and Issues and Perspectives courses.

College of Engineering Requirements
(1) Mathematics and Natural Sciences: 34-36 hours of mathematics and natural sciences must be completed, as prescribed by each department. Included is a natural science elective of three or four hours to be chosen from an approved list available from the college.

(2) Core requirements (13 hours): Engr. 310, Seminar in Engineering (0 hrs.); AE 223, Engineering Mechanics: Statics (3 hrs.); EE 282, Circuits I (4 hrs.); IE 255, Engineering Economy (3 hrs.); and ME 398, Thermodynamics (3 hrs.). These are courses that all engineering students must complete, regardless of major.

(3) Department requirements: Each department has specific courses that must be completed. These courses and their prerequisites are in the departmental sections of the Catalog and are listed on the department checksheets.

(4) Technical electives: Additional courses required, but not specified, by the department. Each should be chosen in consultation with a department adviser.

ABET Requirements
ABET expects the curricular content of an engineering program to include the equivalent of at least three years of study in the areas of mathematics, basic sciences, humanities and social sciences, and engineering topics. The course work must include at least: (1) one year (34 hours) of an appropriate combination of mathematics beyond trigonometry and basic sciences, (2) one (17 hours) half-year of humanities and social sciences, and (3) one and one half years (51 hours) of engineering topics.

Studies in basic sciences must include both general chemistry and calculus-based general physics at appropriate levels, with at least a two-semester sequence of study in either area. The courses in humanities and social sciences must provide both breadth and depth and not be limited to a selection of unrelated introductory courses. Engineering topics include subjects in the engineering sciences and engineering design.

All engineering students follow about the same general curriculum for the first two years. All engineering programs of study are designed to meet ABET criteria as well as satisfy WSU general education requirements, and all courses should be selected with the assistance of a College of Engineering adviser. 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 to meet all requirements in the minimum time.

As part of the institutional effort required to ensure continuous accreditation by ABET, students taking longer than five years to complete an undergraduate degree will be required to meet ABET engineering curricular criteria in effect at the time of their graduation.

Students must file an application for degree card in the engineering dean’s office two semesters preceding their final semester.

Graduation grade point average requirements: The candidate for a degree must attain a 2.00 grade point average in each of the following categories:

(1) All college and university work attempted (cumulative grade point average)

(2) All work attempted at WSU (WSU grade point average)

(3) All work in the student’s major.

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

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 works part-time (parallel program) or alternates paid preprofessional 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>
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<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>C</td>
<td>W</td>
<td>C</td>
</tr>
<tr>
<td>C Indicates in college</td>
<td>W Indicates at work</td>
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</tbody>
</table>

These plans make it possible for each industrial position to be filled by two students, one from Plan A and one from Plan B. Other plans can be developed in cooperation with the coordinator.

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 should contact the cooperative education coordinator at the beginning of their first semester 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 engineering topics.

Lower-Division Courses

110. Women in Engineering Seminar. (1). Explores women’s involvement in the engineering profession and addresses skills to help women students succeed in the engineering curricula. Graded Cr/NCR.

112. Freshman Engineering Seminar. (1). Explores various engineering career opportunities and addresses skills to help engineering students succeed in the engineering curricula. Graded Cr/NCR.

Upper-Division Courses

310. Seminar in Engineering. (0). Seminars on the practice of engineering, including ethics and professionalism. Each College of Engineering student is required to attend four seminars. Graded Cr/NCR only. Prerequisite: admission to the College of Engineering.

Aerospace Engineering

Aerospace engineering students participate in an academic program which involves study in technical areas such as aerodynamic performance, propulsion, flight dynamics and control, and structures. After developing a background of academic skills in these areas, senior students complete a sequence of two courses in design.

The aerospace engineering curriculum also gives students the opportunity to develop strong fundamental knowledge in math, physics, general engineering, digital computation, written and oral communication skills, and humanities and social sciences.

Students have access to excellent laboratory facilities including six wind tunnels, a water tunnel, a computer lab and a structural testing and composite structures lab. These facilities are among the finest found in academic institutions worldwide.

Aircraft plants in Wichita, commonly called the “Air Capital of the World,” include Beech Aircraft Corporation, The Boeing Company, Cessna Aircraft Company and Learjet Corporation, making Wichita an ideal place for aerospace engineering education.

Bachelor of Science Degree in Aerospace Engineering

Sequence of Courses

The undergraduate program requires the completion of 135 semester hours for graduation, minus advanced placement credit and plus Engr. 310. The suggested course study for aerospace engineering students is given in the accompanying table.

Model Program

Freshman Course

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Engl. 101/102 and 102, College English I and II</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
</tr>
<tr>
<td>Phys. 313Q and 315Q, University Physics I</td>
</tr>
<tr>
<td>IE 222, Engineering Graphics</td>
</tr>
<tr>
<td>AE 227, Engineering Digital Computation</td>
</tr>
</tbody>
</table>

Sophomore Course

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comm. 111, Public Speaking</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
</tr>
<tr>
<td>Math. 555, Ordinary Differential Equations with Linear Algebra</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II</td>
</tr>
<tr>
<td>AE 223, Engineering Mechanics: Statics</td>
</tr>
<tr>
<td>AE 324, Fundamentals of Atmospheric Flight</td>
</tr>
<tr>
<td>AE 333, Mechanics of Deformable Solids</td>
</tr>
<tr>
<td>AE 373, Engineering Mechanics: Dynamics</td>
</tr>
<tr>
<td>ME 398, Thermodynamics</td>
</tr>
<tr>
<td>Engr. 310, Seminar in Engineering</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
</tr>
</tbody>
</table>

Junior Course

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 250, Materials Engineering</td>
</tr>
</tbody>
</table>

ME 521, Fluid Mechanics | 3 |
AE 424, Aerodynamic Theory | 4 |
AE 502, Aerospace Propulsion | 3 |
AE 514, Flight Mechanics | 3 |
AE 529 and 625, Flight Structures I and II | 6 |
AE 615, Introduction to Space Dynamics | 3 |
Humanities and fine arts or social and behavioral sciences electives | 6 |

Senior Course

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 512, Experimental Methods in Aerodynamics</td>
</tr>
<tr>
<td>AE 607, Automatic Flight Controls I</td>
</tr>
<tr>
<td>IE 255, Engineering Economy</td>
</tr>
<tr>
<td>EE 282, Circuits I</td>
</tr>
<tr>
<td>AE 528 and 628, Airspace Design I and II</td>
</tr>
</tbody>
</table>

Natural sciences elective | 3 |
Humanities and fine arts or social and behavioral sciences electives | 6 |
Technical electives | 9 |

*To be chosen from a list of approved courses available from the college.

**Refer to graduation requirements at the beginning of this section for details.

Lower-Division Courses

115. Introduction to Aeronautics. (1). An introduction and overview of aeronautics. Historical, technical and practical aspects of rocketry, space dynamics, spacecraft design and the space environment. Intended for freshmen who have not taken AE 324, however, it may be taken by students at any level in other engineering departments or colleges.

124. Introduction to Aeronautics. (2). An introduction and overview of aeronautics. Historical and modern case studies are used to survey the aerodynamic, structural, stability, and propulsion aspects of aerospace flight vehicles. Intended for freshmen and sophomores who have not taken AE 324, however, it may be taken by students at any level in other engineering departments or colleges.

223. Engineering Mechanics: Statics. (3). The study of the condition of equilibrium of rigid bodies under the action of forces. Rigid bodies include beams, trusses, frames and machines. Considers both two and three dimensional problems. Also includes the study of centroids, centers of gravity and moments of inertia. Corequisites: Math. 243 and Phys. 315Q.


281A. Co-op Education. (1). 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. Intended for students who will be working full-time on their co-op assignment and not be enrolled in any other course. May be repeated. Offered Cr/NCr only. Prerequisites: 30 hours toward a bachelor of science in aerospace engineering degree and approval by appropriate faculty sponsor.

281P. Co-op Education. (1). 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 maximum 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. Graded Cr/NCr.

Upper-Division Courses


333. Mechanics of Deformable Solids I. (3). 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 223 and Math. 344. The latter may be taken concurrently.


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 aerospace engineering. Prerequisite: ME 521 or departmental consent.


481A. Co-op Education. (1). See AE 281A. Graded S/U unless student has received permission before enrolling for course to be used as a technical elective. Prerequisites: junior standing and approval by the appropriate faculty sponsor. May be repeated.

481P. Co-op Education. (1). See AE 281P. Graded S/U unless student has received permission before enrolling for course to be used as a technical elective. Prerequisites: junior standing and approval by the appropriate faculty sponsor. May be repeated.

Courses for Graduate/Undergraduate Credit


508. Systems Dynamics. (3). Lumped parameter modeling; classical, numerical, transform and state model methods of solution; introduction to systems with feedback; analogies of various physical systems. Prerequisites: AE 373 and Math. 555.


615. Introduction to Space Dynamics. (3). Orbital mechanics, orbit determination, orbital maneuvers, attitude dynamics and maneuvers. Prerequisite: AE 373.


653. Basic Composite Material Technologies. (3). An introduction to the basic composite material technologies including mechanical behavior, material classification, testing for mechanical properties, manufacturing methods, nondestructive inspection and design. Prerequisite: AE 333.

654. Manufacturing Composite Structures. (1-2). Manufacturing methods and tooling for fiber-reinforced polymer structures and structural components. Prerequisites: ME 250 and AE 653 both recommended.

660. Selected Topics. (1-3). Prerequisite: instructor's consent.

702. Aerospace Propulsion II. (3). In-depth study of rocket and jet propulsion. Turbojet and rocket engine components. Effect of operating variables on turbojet cycles and rocket performance. Prerequisite: AE 502 or instructor's consent.
703. Rotor Aerodynamics. (3). Aerodynamics of rotors, including propellers, wind turbines and helicopters; momentum, blade element and potential flow analysis methods; Reynolds number and Mach number effects; helicopter dynamics, control and performance. Prerequisite: AE 711.


711. Intermediate Aerodynamics. (4). A study of the equations of motion, potential flow, conformal transformations, finite wing theory, non-steady airfoil theory and advanced numerical techniques in aerodynamics. Prerequisite: AE 424 or 420 or ME 521.

712. Advanced Aerodynamics Laboratory. (3). Ri 3L Advanced topics in wind tunnel testing including analysis and sensitivity, modeling techniques, flexible design and calibration, control surface loads and moments, laser velocimetry, hot film anemometry, dynamic signal processing, flow measurement probes, flow visualization using smoke tunnels and water tunnel. Prerequisite: AE 512 or instructor's consent.


715. Space Dynamics I. (3). Advanced trajectory analysis methods and attitude acquisition techniques. Prerequisite: AE 373.

716. Compressible Fluid Flow. (3). Analysis of compressible fluid flow for one- and two-dimensional cases, moving shock waves, one-dimensional flow with friction and heat addition, linearized potential functions, method of characteristics, conical shocks and subsonic similarity laws. Prerequisite: AE 420, AE 424, ME 521 or equivalent.

719. Introduction to Computational Fluid Dynamics. (3). Classification of partial differential equations, numerical solution of parabolic, elliptic, and hyperbolic differential equations, stability analysis, boundary conditions, scalar representation of the Navier-Stokes equations, incompressible Navier-Stokes equations. Prerequisites: AE 424 or ME 521.


731. Theory of Elasticity. (3). Develops the equations of the theory of elasticity and uses them to determine stress and displacement fields in linear elastic isotropic bodies. Uses airy stress functions to obtain solutions. Introduces energy principles and variational methods. Prerequisite: instructor's consent.

733. Mechanics of Deformable Solids II. (3). An extension of AE 333. Typical topics are transformation of stress and strain in three dimensions, noncircular torsional members, curved beams, beams with unsymmetric cross sections, energy methods and the finite element method of analysis, stress concentration, theories of failure, fracture mechanics, etc. Prerequisite: AE 333.


760. Selected Topics. (1-3). Prerequisite: instructor's consent.


777. Vibration Analysis. (3). A study of free, forced, damped and undamped vibrations for one and two degrees of freedom, as well as classical, numerical and energy solutions or multidigit freedom systems. Introduces continuous systems. Prerequisites: Math. 555, AE 373 and 333.

Courses for Graduate Students Only

801. Structural Dynamics. (3). A study of the free and forced vibration of multiple degree of freedom systems and continuous systems. Classical, numerical and energy solutions. Prerequisite: AE 777.


812. Aerodynamics of Viscous Fluids. (3). Viscous fluids flow theory and boundary layers. Prerequisite: AE 424 or 420 or ME 521.

814. Advanced Flight Dynamics II. (3). Sensitivity analyses of flight parameters; control surface sizing; handling qualities; pilot in-the-loop analysis; trajectory optimization. Prerequisite: AE 714.

815. Space Dynamics II. (3). Missile and interplanetary trajectories, orbital perturbations, attitude control methods and atmospheric reentry. Prerequisite: AE 715 or equivalent.

817. Transonic Aerodynamics. (3). Experimental and analytical difficulties in flow and flight near Mach one. Basic equations and solution methods; linearized potential equation; shock occurrence criteria on wings; Transonic Aero. Rule; nozzle throat design; detached shock wave computations; computational methods. Prerequisites: AE 424, 420 or equivalent; and AE 711 or 716.


822. Finite Element Analysis of Structures. (3). Formulation of the finite element equations by variational methods; the use of isoparametric and higher order elements for analyzing two- and three-dimensional problems in solid mechanics; introduction to solutions of nonlinear problems. Prerequisites: AE 722 and 731.

831. Mechanics of Damage Tolerance. (3). An introduction to the damage tolerant structures with emphasis on mechanics aspects. Topics include stress shields around cracks tips, stress intensity factors, unstable crack growth from static loading, and stable crack growth from cyclic spectrum loading. Prerequisite: AE 731.

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: AE 731.


838. Random Vibration. (3). Includes characterization of transducers, failure of mechanical systems subjected to random vibration. Includes analysis and measurement methods for random data. Prerequisite: instructor's consent.

860. Selected Topics. (1-3). Prerequisite: Instructor's consent.

876. MS Thesis. (1-6). Graded S/U only.

878. Directed Studies. (1-3). Involves directed study under the supervision of a graduate faculty member. Requires a written report. Repeatable toward an MS directed study project up to three hours. Graded S/U only. Prerequisite: graduate standing.

911. Airfoil Design. (3). Historical development of airfoils, underlying theories and
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 plus Engr. 310.

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>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Eng. 101/100 and 102, College English I and II</td>
<td>6</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>Comm. 111, Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>EE 282, Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>EE 194, Combination Logic and Devices</td>
<td>3</td>
</tr>
<tr>
<td>EE 239, Engineering Computing</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td>Hrs.</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Math. 555, Ordinary Differential Equations with Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II</td>
<td>3</td>
</tr>
<tr>
<td>AE 223, Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>EE 284, Circuits II</td>
<td>3</td>
</tr>
<tr>
<td>IE 255, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>ME 398, Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>Engr. 310, Seminar in Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td></td>
</tr>
<tr>
<td>EE 363, Electromagnetic Field Theory</td>
<td>3</td>
</tr>
<tr>
<td>EE 383, Signals and Systems</td>
<td>3</td>
</tr>
<tr>
<td>EE 488, Electric Machines and Transformers</td>
<td>3</td>
</tr>
<tr>
<td>EE 492, Electronic Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>Stat. 471, Probabilistic Models and Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Humanities and fine arts or social and behavioral sciences electives | 6

Technical electives | 3

Senior

Course

| Hrs.
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 585 and 595, Electronic Design Project I and II</td>
</tr>
<tr>
<td>EE 681, Electronic Circuits II</td>
</tr>
<tr>
<td>Technical electives</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences electives</td>
</tr>
</tbody>
</table>

*Refer to graduation requirements at the beginning of this section for details.
**The following requirements concern technical electives:
1. In every case the program of engineering courses must include 54 hours of engineering science and 17 hours of engineering design. The student is responsible for seeing that these requirements are met.
2. A minimum of 16 credit hours must be taken within the electrical engineering department.
3. Two electrical engineering courses with a laboratory component are required.

Lower Division Courses

194. Introduction to Digital Design. (4). 3R; 3L. An introduction to Digital Design concepts. Topics include number systems, Boolean algebra, Karnaugh maps, combinational circuit design, adders, multiplexers, decoders, sequential circuit design, state diagram, flip flops, sequence detectors, and test design combinational and sequential circuits. CAD tools will be used for circuit simulation. Prerequisite: Math 111 or equivalent.

238. Assembly Language Programming for Engineers. (3). An introduction to basic concepts of computer organization and operation. Studies machine and assembly language programming concepts that illustrate basic principles and techniques. Laboratory exercises given for experience using personal computers. Prerequisite: Math 111 or 112 and one high level programming language course.

239. Engineering Computing in C. (3). Introductory course in digital computer programming using C with applications to elementary engineering problems. Stresses both C syntax rules and problem solving approaches. Laboratory exercises given for programming on personal computers. Prerequisite: Math. 111 or 112.


284. Circuits II. (3) Topics include circuits with mutually coupled elements, transfer functions with emphasis on frequency response, two-port networks, Laplace transforms and applications to transient circuit analysis and the application of computer aided analysis software toward circuit analysis and design. Prerequisite: EE 239 or AE 227, EE 262, Math. 243.


## Upper-Division Courses

1. **383. Signals and Systems.** (3). Properties of signals and systems, convolution and its application to system response, Fourier series representation of periodic signals, Fourier transforms and continuous spectra, filters, time domain sampling, and Z-transforms. Many of these topics involve discrete as well as continuous systems. Prerequisites: Math 344.

2. **384. Microprocessor Based System Design.** (3). Development of microprocessor based systems presented. Interfacing the address bus, data bus, and control bus to the processor chip studied. Memory systems and I/O devices interfaced to the appropriate busses. Vendor-supplied, special-purpose chips, such as interrupt controllers, programmable I/O devices, and DMA controllers, integrated into systems designed in class. Prerequisites: EE 284 and EE 301.


4. **386. Power Systems Functional Design.** (3). Course is an introduction to computer architecture. Prerequisite: computer architecture will be introduced. A small computer will be designed in class. Instruction set selection, bus systems, hard-wired design, and microprocessor design will be studied. Prerequisite: EE 294.

5. **387. Selected Topics in Electrical Engineering.** (1-4). New or special courses presented on sufficient demand. Repeatable for credit. Prerequisite: departmental consent.

6. **481A. Co-op Education.** (1). Provides the student the opportunity to obtain practice 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. Intended for students who will be working full-time on their co-op assignment and need not be enrolled in any other course. Prerequisite: junior standing and approval by appropriate faculty sponsor.

7. **481P. Co-op Education.** (1). Provides the student the opportunity to obtain practice 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 must enroll concurrently in a minimum of 20 hours per week at their co-op assignment. Prerequisite: junior standing and approval by appropriate faculty sponsor.

8. **485. Digital Design Techniques.** (3). Digital design techniques include design of fundamental mode circuits, race and cycles, optimum assignment. Register and register transfer language, RTL, state design. Memory, memory organizations and microprogramming. Programmable logic devices, different types of PLDs, combinational and sequential circuit design using PLDs. CAD tools used for circuit simulation. Prerequisite: EE 194.

9. **492. Electronic Circuits I.** (3). An introduction to semiconductor devices and applications in discrete and integrated circuit design. Applications include, but are not limited to, op-amp circuits, rectification, and transistor amplifiers. Prerequisites: EE 282 and Math 243.

10. **493. Electronic Circuits II.** (3). An introduction to semiconductor devices and applications in discrete and integrated circuit design. Applications include, but are not limited to, op-amp circuits, rectification, and transistor amplifiers. Prerequisites: EE 282 and Math 243.

11. **494. Advanced Electric Motors.** (3). Advanced electric motor applications and theory. Topics include single-phase motors, adjustable speed ac drive applications, and stepper motors. Prerequisites: EE 488 and 492.

12. **495. Microprocessor Based System Design.** (3). Development of microprocessor based systems presented. Interfacing the address bus, data bus, and control bus to the processor chip studied. Memory systems and I/O devices interfaced to the appropriate busses. Vendor-supplied, special-purpose chips, such as interrupt controllers, programmable I/O devices, and DMA controllers, integrated into systems designed in class. Prerequisites: EE 238 and EE 294.

13. **585. Electrical Design Project II.** (3). May not be counted toward a graduate electrical major. A continuation of EE 585. Prerequisite: EE 585 or departmental consent.

14. **588. Electric Power Systems Analysis.** (3). Analysis of electricity utility power systems. Topics include analysis and modeling of power transmission lines and transformers, power flow analysis and software, and an introduction to symmetrical components. Prerequisite: EE 282.

15. **590. Electric Power Systems Analysis.** (3). Analysis of electricity utility power systems. Topics include analysis and modeling of power transmission lines and transformers, power flow analysis and software, and an introduction to symmetrical components. Prerequisite: EE 282.

16. **591. Telecommunications.** (3). Presents topics in circuit and packet switching, layered communication architectures, state dependent queues, traffic engineering, call processing, software organization, routing and common channel signaling. Prerequisites: EE 686 or departmental consent.

17. **592. Microprocessor Systems and Applications.** (3). A detailed study of microprocessor architectures and addressing, assembly language programming, interrupt processing, interfacing to input/output devices and numeric coprocessors. Assembly language programs are designed and tested to illustrate the major concepts. Prerequisites: EE 238 and at least one EE course at 400 level or above.

18. **593. Waves, Waveguides and Antennas.** (3). A study of radiation and transmission of electromagnetic waves. Includes plane wave propagation in various media normal and oblique reflections, dielectric windows, transmission through waveguides and introduction to antennas. Prerequisites: EE 363 and 682.


20. **595. Distributed Parameter Circuits.** (3). An introduction to the theory and applications of distributed parameter circuits with emphasis on transmission lines. Treats telegrapher’s equations, transient signals on lossless lines, steady state signals on lossless lines, effects of lumped impedances, and Smith Chart techniques. Prerequisite: EE 282.


22. **597. Introduction to Communication Systems.** (4). Deals with the applications of solid-state electronics for the control and conversion of electric power. Gives an overview of the role of the thyristor in power electronics applications and establishes the theory, characteristics and protection of the thyristor. Presents controlled rectification, static frequency conversion by means of the DC link-converter and the cyclo converter, emphasizing frequency, and voltage control and harmonic reduction techniques. Also presents the fundamental requirements of forced commutation methods as applied to DC-DC control and firing circuit requirement and methods. Introduces applications of power electronics to control AC and DC motors using new methods such as microprocessor. Prerequisite: EE 492.

23. **598. Principles of Power Distribution.** (3). Advanced topics in analysis and operation of electrical utility power systems. Topics include faulted system analysis, economic dispatch, generator modeling, power system stability, and system protection. Prerequisite: EE 488.

24. **599. Digital Communication Systems I.** (3). Presents the theoretical and practical aspects of digital and data communication systems. Includes the modeling and analysis of information sources as discrete processes, basic source and channel coding; multiplexing and framing; spectral and time domain considerations related to ASK, PSK, DPSK, QPSK, FSK, DSK, and other techniques appropriate for communicating digital information in both baseband and bandpass systems; intersymbol interference; effects of noise on system performance; optim.
736. Data Communication Networks. (3). Presents a quantitative performance evaluation of telecommunication networks and systems. Includes fundamental digital communication system review; packet communications; queuing theory; OSI; S.25, and SNA layered architectures; stop-and-wait protocol, go-back-N protocol, and hybrid data link layer; network layer flow and congestion control; routing; polling and random access; local area networks (LAN); integrated services digital networks (ISDN); and broadband networks. Prerequisites: Stat. 471 and EE 636 or departmental consent.

737. Embedded Systems Programming. (3). A study of the requirements and design of embedded software systems. Application of the C programming language in the implementation of embedded systems emphasizing real-time operating systems, interfacing to assembly and high-level languages, control of external devices, task control and interrupt processing. Prerequisite: EE 636.

740. Probabilistic Methods in Systems. (3). A course in random processes designed to prepare the student for work in communications controls, computer systems information theory and signal processing. Covers basic concepts and useful analytical tools for engineering problems involving discrete and continuous-time random processes. Discusses applications to system analysis and identification, analog and digital signal processing, data compression parameter estimation, and related disciplines. Prerequisites: EE 284 and 383 and Stat. 471 or EE 294 or departmental consent.

777. Selected Topics in Electrical Engineering. (1-4). New or special courses presented on sufficient demand. Repeatable for credit. Prerequisite: departmental consent.

826. Digital Communication Systems II. (3). Presents in-depth theoretical and practical digital communication systems and channels. Involves the modeling and analysis of all digital communication systems with intermediate frequency (IF) sampling and A/D converter; synchronization techniques; trellis-coded modulation (TCM); Multiple Access; fading multi-path channel; radio frequency interference (RFI) channel; and jamming channel. Applies to digital satellite communications systems and digital cellular radio division multiple access (CDMA) systems. Prerequisites: EE 725.

842. Modern Filters. (3). Concerned with estimating a signal of interest or the state of a system in the presence of additive noise, making use of the statistical characteristics of both the signal and the noise. Course content includes Wiener filters, Kalman filters, linear prediction, and algorithms for linear prediction parameter estimation. Prerequisite: EE 754.


845. Adaptive Filters. (3). Concerned with estimating a signal of interest or the state of a system in the presence of additive noise, but without making use of prior statistical characteristics of the signal or the noise. Concerned with the design, analysis, and application of recursive filtering algorithms that operate in an environment of unknown statistics. Content includes least mean-square (LMS) filters, recursive least-square (RLS) filters, and recursive least-squares lattice (LSL) filters. All are adaptive and self-designing. Concepts of convergence, tracking ability, and robustness are included. Prerequisite: EE 754.

846. Spectrum Estimation. (3). Concerned with estimating the frequency spectrum, primarily power but also energy, of a signal of interest. Reviews historical methods, but concentrates on modern methods that are model based, achieving high resolution even for short data lengths. Content includes maximum entropy, maximum likelihood, autoregressive, moving average, and autoregressive moving average spectrum estimation methods. Applications also included. Prerequisite: EE 754.

854. Stochastic Control Systems. (3). Review of the pertinent aspects of deterministic system models; stochastic processes and linear dynamic system models emphasizing linear systems driven by White Gaussian noise; linear estimation and optimal filtering; design and performance analysis of Kalman filters. Prerequisites: EE 684 and 754.

876. MS Thesis. (1-3). Graded S/U only. Repeatable for credit toward the MS thesis option up to six hours. Prerequisite: prior consent of MS thesis adviser.

882. Special Topics in Electrical Engineering. (3). New or special courses presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent.

887. Directed Studies in Electrical Engineering. (1-4). Graded S/U only. Repeatable toward the MS directed study option for up to four hours. The student writes a paper and gives an oral presentation on the study made. Prerequisite: departmental consent.

888. Speech Digital Signal Processing. (3). An introductory study in speech signal generation and digital speech signal processing. Includes speech generation and perception, acoustic phonetics, models of speech signals and speech production, signal processing methods of speech signals, short-time Fourier transforms and the application of speech signals to digital signal processing, parametric and nonparametric methods of signal representation, linear prediction methods, speech data compression, some methods of speech synthesis and recognition, and speech signals in the presence of noise. Prerequisites: EE 754 and 782.

889. Digital Filters. (3). A study of digital filter design methods. Includes both IIR and FIR filters. Discusses software and hardware implementations; introduces two-dimensional digital filters. Prerequisite: EE 782 or departmental consent.

890. Discrete-Time Control Systems. (3). Fundamentals of input-output and state-space analysis, difference equations and state space representations; pole placement and observer design; dynamic programming and discrete minimum principle; linear state regulator design; stability-constrained control problems. Prerequisites: EE 684 and 782.

896. Error Control Coding. (3). Presents fundamental topics from information theory which underlie source and error control coding. Reviews topics from finite field theory and vector spaces essential for the study of coding. Presents the concepts of code-space, sphere
492. Speech Recognition. (3). Reviews topics in speech recognition, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 398.

506. Selected Topics in Systems and Control. (3). Reviews topics in systems and control, including control theory, adaptive control, and robust control. Prerequisite: EE 484.

510. State-Variable Techniques in Systems II. (3). Reviews the state-variable approach to systems and control, including state-space representation, stability, and control. Prerequisite: EE 483.

513. Advanced Computer Architecture II. (3). Reviews advanced computer architecture topics, including memory systems, cache design, and parallel processing. Prerequisite: EE 512.

515. Nonlinear Control Theory. (3). Reviews advanced nonlinear control theory topics, including Lyapunov methods, stability analysis, and adaptive control. Prerequisite: EE 513.

517. Advanced Electrical Laboratory. (2). 6L. Reviews advanced experimental methods in electrical engineering, including invariance, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

525. Selected Reading in Electrical Engineering. (1-3). Reviews selected advanced topics in electrical engineering, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

540. Computer Design. (3). Reviews computer design topics, including memory systems, cache design, and parallel processing. Prerequisite: EE 513.

543. Communication Systems. (3). Reviews communication systems topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

549. Introduction to Digital Signal Processing. (3). Reviews basic digital signal processing concepts, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

552. Linear Systems Theory. (3). Reviews linear systems theory topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

553. Advanced Control System Techniques. (3). Reviews advanced control system techniques, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

555. Computer Architecture and Design. (3). Reviews computer architecture and design topics, including memory systems, cache design, and parallel processing. Prerequisite: EE 513.

557. Digital Signal Processing. (3). Reviews digital signal processing topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

560. Communication Systems Laboratory. (3). Reviews communication systems laboratory topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

562. Modern Control System Design. (3). Reviews modern control system design topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

578. Nonlinear Control Systems. (3). Reviews nonlinear control systems topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

580. Communication Theory. (3). Reviews communication theory topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

582. Signals and Systems. (3). Reviews signals and systems topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.

584. Communication Systems Analysis. (3). Reviews communication systems analysis topics, including invariance, phoneme recognition, acoustic-phonetic characterizations, Markov models, and other methods. Prerequisite: EE 492.
### Industrial Engineering

**Lower-Division Courses**

150. Workshop in Industrial Engineering. (1-3). Offered from time to time on various topics in industrial engineering.

222. Engineering Graphics. (3). \(2R; 3L\). 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, and working drawings. Emphasizes 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.

250. Topics in Engineering Graphics. (2). \(1R; 3L\). The application of engineering graphics to the study of special problems and to methods of conveying information. Prerequisite: IE 222.


255. Engineering Economy. (3). Economic comparisons of engineering alternatives considering the time value of money, taxes, and depreciation. Prerequisite: Math. 243.

281P. Co-op Education. (1). Introduces the student to engineering practice by working 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. 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 **C/NCR only**.

### Bachelor of Science Degree in Manufacturing Engineering

**Sequence of Courses**

The BS in manufacturing engineering program requires the completion of 135 semester hours for graduation, minus hours commensurate with advanced placement credit plus Engr. 310. Students may select 12 hours of technical electives to emphasize their study of advanced manufacturing engineering concepts and related topics in other engineering disciplines. Selection of appropriate courses would allow the students to tailor their study to fit their individual interests and needs. Students’ programs of study are determined in consultation with their faculty advisers. Specific requirements and a suggested year breakdown for the manufacturing engineering program are given in the accompanying table.

#### Model Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>Hrs.</td>
</tr>
<tr>
<td>IE 549, Industrial Ergonomics</td>
<td>3</td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 313Q and 315Q, University Physics I and lab</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>Sophomore</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>Hrs.</td>
</tr>
<tr>
<td>IE 222, Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>AE 223, Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>EE 239, Engineering Computing in C</td>
<td>3</td>
</tr>
<tr>
<td>ME 250, Materials Engineering</td>
<td>3</td>
</tr>
<tr>
<td>AE 333, Mechanics of Deformable Solids</td>
<td>3</td>
</tr>
<tr>
<td>Technical electives**</td>
<td>6</td>
</tr>
<tr>
<td>Math. 555, Ordinary Differential Equations with Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Course</td>
<td>Hrs.</td>
</tr>
<tr>
<td>IE 255, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>IE 524, Engineering Probability and Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>MfgE 645, Manufacturing Systems Engineering</td>
<td>3</td>
</tr>
<tr>
<td>AE 333, Mechanics of Deformable Solids</td>
<td>3</td>
</tr>
<tr>
<td>Technical electives**</td>
<td>6</td>
</tr>
<tr>
<td>Math. 555, Ordinary Differential Equations with Linear Algebra</td>
<td>4</td>
</tr>
</tbody>
</table>

**Refer to graduate requirements at the beginning of this section for details.

*To be chosen from an approved list on a minimum of six hours must be earned in the MfgE department and at least one hour must be designated as engineering design.

**To be chosen from an approved list available from the College of Engineering.

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**Design I**

**MfgE 690, Manufacturing Engineering**

**Design II**

**ME 439, Mechanical Engineering**

**Design I**

**Technical electives**

**Natural science electives**

**Humanities, social science or fine arts electives**

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### Bachelor of Science Degree in Manufacturing Engineering
Upper-Division Courses

452. Work Analysis and Design. (3). Design principles and techniques of work measurement systems, methods engineering, work sampling and predetermined time systems. Prerequisite: IE 254 or Stat. 471.

480. Selected Topics in Industrial Engineering. (1-4). New or special course material presented upon sufficient student demand. Repeatable for credit. Prerequisite: departmental consent.

481P. Co-op Education. (1). See IE 281P. Prerequisite: junior standing and approval by appropriate faculty sponsor.

Courses for Graduate/Undergraduate Credit


549. Industrial Ergonomics. (3). A systematic approach to the optimization of human-environment interaction. Includes human information processing and limitations, work space design and environmental factors. Prerequisites: IE 452 and 524 or departmental consent.


553. Production and Inventory Control. (3). Quantitative techniques used in the analysis and control of production systems. Includes forecasting, inventory models, operation planning, and scheduling. Prerequisite: IE 550.

554. Statistical Quality Control. (3). A study of the measurement and control of product quality using statistical methods. Includes acceptance sampling, statistical process control and total quality management. Prerequisite: IE 524.

555. Information Systems. (3). A study of the design, implementation and economic analysis of computer-based information systems. Prerequisites: IE 255 and EE 239 or AE 227.


558. Manufacturing Methods and Materials I. (3) 2R; 3L. A study of traditional manufacturing processes and relevant material properties. Includes metal cutting, metal forming, casting and joining processes, measurement and inspection methods. Prerequisite: Math. 243.

563. Facilities Planning and Design. (3). Quantitative and qualitative approaches to problems in facilities planning and design, emphasizing activity relationships, space requirements, materials handling and storage, plant layout and facilities location. Prerequisite: IE 550 and IE 558. Corequisite: IE 452.

565. Systems Simulation. (3). The design of simulation methods and techniques for use in designing and evaluating discrete systems, including manufacturing systems too complex to be solved analytically. Emphasizes general purpose computer simulation languages. Prerequisites: IE 553 or equivalent and EE 239 or AE 227.

590. Industrial Engineering Design I. (3). A design project utilizing industrial engineering principles, performed under faculty supervision, for solving practical problems. Prerequisites: IE 452, 553, 558, and department consent. Corequisites: IE 563, 565. May not be counted toward a graduate industrial engineering major.

664. Engineering Management. (3). An introduction to the design and control of technologically based projects. Considers both the theoretical and practical aspects of systems models, organizational development, project planning and control, resource allocation, team development and personal skill assessment. Prerequisite: IE 254 or Stat. 471.


690. Industrial Engineering Design II. (3). Continuation of the design project initiated in IE 590 or the performance of a second industrial engineering design project. Prerequisites: IE 590 and department consent. Corequisites: IE 549, 554. May not be counted toward a graduate industrial engineering major.

720. Urban Systems. (3). Cross-listed as P. Adm. 720. Develops the principles of systems analysis and the tools by which these principles can be applied. Example applications are taken from urban problems. Emphasizes the formulation of realistic models and solutions. Develops computer techniques in class as necessary. Prerequisite: departmental consent.


740. Analysis of Decision Processes. (3). Decision analysis as it applies to capital equipment selection and replacement, process design and policy development. Explores consideration of risk, uncertainty and multiple attributes is developed and applied using modern computer aided analysis techniques. Prerequisites: IE 254 and 255.

743. Operations Research. (4). A study of various operations research techniques including linear programming, transportation and assignment algorithms, dynamic programming, queuing models and inventory models.

Prerequisites: IE 254 or Stat. 471, Math. 511 or 553 and EE 239 or AE 227. May not be taken by students who have credit in IE 450.


749. Advanced Human Factors. (3). A continuation of IE 549. Includes principles and application of human factors to the design of the workplace, displays, control systems, hand tools and video display terminals. Prerequisite: IE 549.

750. Industrial Engineering Workshops. (1-4). Various topics in industrial engineering. Prerequisite: departmental consent.

754. Reliability and Maintainability Engineering. (3). Studies problems of quantifying, assessing and verifying reliability. Presents various factors that determine the capabilities of components emphasizing practical applications. Examples and problems cover a broad range of engineering fields. Prerequisite: IE 524.

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.


758. Manufacturing Methods and Materials II. (3). A study of modern manufacturing processes and advanced topics in manufacturing. Includes principles of non-traditional machining processes, processing of plastics and composites, principles of jig and fixture design, tolerancing, process planning, and NC programming. Prerequisite: IE 558.

764. Systems Engineering and Analysis. (3). Presentation of system design process from the identification of a need through conceptual design, preliminary design, detail design and development, and system test and evaluation. Studies operational feasibility, reliability, maintainability, supportability and economic feasibility. Prerequisites: IE 254 and 255.

770. Industrial Automation. (3). Teaches the design and application of manufacturing automated systems. Automation components, such as sensors, actuators and microprocessors, along with the use of programmable logic controllers are discussed. Other areas of automation, such as robotics, machine vision, DMC machine tools, and their integration into automated systems are introduced in this course. Prerequisite: EE 282.

775. Computer Integrated Manufacturing. (3). A study of the concepts, components and tech-
ologies of CIM systems, enterprise modeling for CIM, local area networks, CAD/CAM interfaces, information flow for CIM, shop floor control and justification of CIM systems. Prerequisite: IE 553 or instructor's consent.

758. Manufacturing Methods and Materials II. (3). A study of modern manufacturing processes and advanced topics in manufacturing. Includes principles of nontraditional machining processes, processing of plastics and composites, principles of jigs and fixture design, tooling, process planning, and NC programming. Prerequisite: IE 558.

770. Industrial Automation. (3). 2R; 3L. Teaches the design and application of manufacturing systems. Automation components, such as sensors, actuators and microprocessors, along with the use of programmable logic controllers are discussed. Other areas of automation, such as robotics, machine vision, DNC machine tools, and their integration into automated systems are introduced in this course. Prerequisite: EE 239 or knowledge of a programming language.

775. Computer Integrated Manufacturing. (3). A study of concepts, components and technologies of CIM systems, enterprise modeling for CIM, local area networks. Introduction to CAD, CAM, Group Technology and CAPP. Prerequisites: EE 239 or knowledge of a programming language, IE 558.

780. Topics in Industrial Engineering. (3). New or special courses are presented under this listing. Repeatable for credit when subject matter warrants.

781. Cooperative Education. (1-8). A work-related placement with a supervised professional experience to complement and enhance the student's academic program. Intended for master's level or doctoral students in IE. Repeatable for credit. May not be used to satisfy degree requirements. Prerequisite: department's consent and graduate GPA of 3.00 or above. CR/NCR only.

Courses for Graduate Students Only


830. Advanced Linear Programming. (3). A study of the mathematical developments of the simplex methods, revised simplex methods, decomposition, bounded variables, parametric programming and other advanced topics in LP. Prerequisite: IE 450 or 743.

831. Nonlinear Programming. (3). An extensive treatment of constrained and unconstrained search techniques and nonlinear optimization algorithms. Prerequisite: IE 450 or 743 or departmental consent.

832. Advanced Production and Inventory Control. (3). A study of the elements of production and inventory control systems, their design and integration. Prerequisite: IE 553.

835. Applied Forecasting Methods. (3). A study of the forecasting methods, including smoothing techniques, time series analysis and Box-Jenkins models. Prerequisite: IE 524.

842. Advanced Simulation. (3). A study of advanced techniques and methods for statistically selecting input distributions for and analyzing output from simulation models. Also studies variance reduction and model validation techniques. Prerequisites: IE 565 and 524.


849. Industrial Engineering Graduate Project. (4). An independent study performed under the supervision of academic adviser for students in MSIE non-thesis option. Requires a report and an oral examination based on the study. Graded S/U only. Prerequisite: consent of student adviser.

857. Environmental Hygiene Engineering. (3). Evaluation and control of mechanical, physical and chemical environments. Environmental factors considered include heat, cold, noise, vibration, light, pressure, acceleration, radiation and air contaminants. Prerequisite: IE 549.

860. Engineering Management Communications. (3). 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.


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.

890. Independent Study in Industrial Engineering. (3). Analysis, research and solution of a selected problem. Prerequisite: instructor's consent.

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 743.

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.

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.

956. Knowledge-Based Systems. (3). Introduction to the concepts and techniques in knowledge-based systems or expert systems. Includes design and development of knowledge-based systems using microcomputer-based software. Prerequisite: EE 239 or AE 227 or departmental consent.

960. Advanced Selected Topics. (1-3). New or special courses on advanced topics presented under this listing on sufficient demand. Prerequisite: instructor's consent.

970. Machine Vision Applications. (3). A study of machine vision techniques, such as thresholding, edge detection, boundary following, object identification and measurements using machine vision. Emphasizes the application of machine vision techniques in automated inspection and object recognition. Prerequisite: EE 239 or knowledge of a programming language, IE 670, or instructor's consent.


990. Advanced Independent Study. (1-3). Arranged individual, independent study in specialized content areas. Repeatable toward the Ph.D. degree. Prerequisites: advanced standing and departmental consent.

Manufacturing Engineering

Lower-Division Courses

258. Manufacturing Methods and Materials I. (3). 2R; 3L. Provides an introduction to the major manufacturing processes. The processes covered are, but not limited to, machining, metal forming, extrusion, casting and joining processes. Students will gain an extensive laboratory experience on different manufacturing processes. Prerequisite: Math. 123 or equivalent.

Courses for Graduate/Undergraduate Credit

502. Metrology. (3). Covers new methods of manufacturing metrology. Digital measurement techniques will be covered. Students will be exposed to devices such as Coordinate Measuring Machines and non-contact optical measurement devices. Includes a laboratory to familiarize the students with these devices. Prerequisites: IE 254 and MigE 258.

554. Manufacturing Tools and Processes. (3). Introduces the concepts of concurrent engineering, tool design, fixture design, jig design, presswork tools design, and mold design. It also includes the fundamental soft gauge design and measuring, fabrication processes, assembly tooling and processes. Prerequisite: MigE 258.

558. Manufacturing Methods and Materials II. (3). Covers the theoretical aspects of manufacturing processes. Knowledge of material
treatment and its effect on manufacturing processes are covered. In depth study of the material removal processes and non-traditional machining. Tool wear and tool wear monitoring and unattended machining. Includes an introduction to geometric dimensioning and tolerancing. Includes laboratory experience and plant tours. Prerequisites: MfgE 258 and ME 250.

575. Computer Aided Manufacturing. (3). An introductory course in Computer Aided Manufacturing. Examines the basic principles of CAM, such as computer aided design, NC programming, CAD/CAM integration, and principles of group technology and part family formation. Prerequisites: MfgE 258 and EE 239 or equivalent.

590. Manufacturing Engineering Design I. (3). First of two capstone design project courses utilizing the principles of manufacturing engineering. Supervised by a manufacturing engineering faculty. The project selected will be an industry-based project conducted in cooperation with a local industry. Prerequisite: first semester senior in manufacturing engineering; departmental consent.

622. Computer Aided Design. (3). Intended as an introduction to 2-D computer graphics. Discuss concepts of CAD/CAM/CIM, design theory and automation, knowledge-based CAD systems and the use of AI tools in CAD. The design interchange standards and the interface between CAD/CAM are described. Prerequisites: IE 222, EE 239 or equivalent, and Math. 555.

645. Manufacturing Systems Engineering. (3). A study of the design, planning, implementation, and control of manufacturing systems. Discuss types of manufacturing systems, material requirement planning, capacity planning, facilities planning, scheduling, and an introduction to computer-aided process planning. Prerequisite: MfgE 588.

654. Non-traditional Machining Processes. (3). A study of the role and economics of non-traditional processes; use of laser and electron beams in inspection and measurement; heat treatment; material removal; material joining; and coating. Also covers the fundamentals of electro-discharge machining, electro-chemical machining, chemical milling, and water-jet machining. Prerequisite: MfgE 588.

658. Forming Processes. (3). Introduction to the fundamentals of deformation and the physical and mathematical modeling of forging, rolling, extrusion, drawing, swaging, coining, sheet-metal working, spinning. Also covers the fundamentals of tool and die design. Prerequisite: MfgE 588.

690. Manufacturing Engineering Design II. (3). Continuation of the project initiated in MfgE 590 or a second industry-based design project. Prerequisite: MfgE 590.

**Mechanical Engineering**

Mechanical engineering is one of the broadest engineering fields. Mechanical engineers are found in virtually all productive industries, from aircraft and automotive to consumer products and building equipment. In these jobs, mechanical engineers design products, machines and processes for manufacturing. They analyze, test and develop these products, machines and manufacturing processes to attain the best performance and durability within cost and time limits. Examples of specific mechanical engineering jobs include:

- design, development and manufacturing of automotive engines and vehicle systems
- design, development and manufacturing of gas turbine and other aircraft engines
- design and construction of electrical power plant energy conversion and generating systems
- design, development and manufacturing of consumer products, ranging from appliances such as refrigerators, washers and electric drills, to the manufacturing systems for producing facial tissue and processed foods and packaging of these items
- design and specification of heating, air-conditioning and ventilating systems used in aircraft, automobiles and buildings
- analysis of the complex flow of gases and fluids such as air flow in aircraft inlets and fluid flow in hydraulic and pumping systems
- study of heat flow, ranging from boilers and automotive radiators to heat management problems in orbiting spacecraft.

The mechanical engineering program prepares students for these job opportunities, as well as possible entry to graduate school for those so inclined. This is accomplished through a broad course of study that covers not only the technical aspects required, but the ethical, professional and communications skills needed to be a successful practicing engineer. The program includes components in mathematics and natural science, written and oral communications skills, humanities and social sciences, a core of engineering science subjects and a specified set of required technical courses covering the basic areas of mechanical engineering. In addition, students select elective courses that allow them to develop specialized knowledge in areas such as robotics, manufacturing, entrepreneurship, biomechanics, materials structure and behavior, heat transfer and energy conversion. Modern laboratories and a wide variety of computer facilities provide students with hands-on experience in experimental work and computer-aided design and engineering.

**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 plus Engr. 310. Specific requirements and a suggested course of study for the mechanical engineering program follow.

**Model Program**

**Freshman**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr. 101/100 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</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 313Q and 315Q, University Physics I and lab</td>
<td>5</td>
</tr>
<tr>
<td>Comm. 111, Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences elective*</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. 555, Ordinary Differential Equations with Linear Algebra</td>
<td>4</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>AE 223, Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>AE 227, Engineering Digital Computations</td>
<td>3</td>
</tr>
<tr>
<td>IE 255, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>EE 282, Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>ME 250, Materials Engineering</td>
<td>4</td>
</tr>
<tr>
<td>ME 251, Materials Engineering lab</td>
<td>1</td>
</tr>
<tr>
<td>IE 222, Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>Engr. 310, Seminar in Engineering</td>
<td>0</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 333, Mechanics of Deformable Bodies</td>
<td>3</td>
</tr>
<tr>
<td>AE 373, Engineering Mechanics: Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ME 339, Elements of Mechanical Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>ME 398, Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>ME 402, Mechanical Engineering Measurements</td>
<td>3</td>
</tr>
<tr>
<td>ME 439, Mechanical Engineering Design I</td>
<td>3</td>
</tr>
<tr>
<td>ME 502, Thermodynamics II</td>
<td>3</td>
</tr>
<tr>
<td>ME 521, Fluid Mechanics</td>
<td>3</td>
</tr>
</tbody>
</table>
Heat Transfer ........................................... 3
ME 523, Fluid and Heat Flow lab .......... 1
Natural science electives** ..................... 3
Humanities and fine arts or social and behavioral sciences elective* ........ 3

Senior Course
Hrs.
ME 503, Mechanical Engineering Laboratory ........................................... 2
ME 541, Mechanical Engineering Design II .................................................. 3
Thermal Design electives* .............. 3
ME 569, Mechanical Control ................. 3
ME 662, Mechanical Engineering Practice .............................................. 3
Engineering electives† .................................. 12
Humanities and fine arts or social and behavioral sciences elective* ........ 8

*Refer to graduation requirements at the beginning of this section.
**To be chosen from a list of approved courses available from the College of Engineering.
§ One thermal design elective must be taken from those being offered.
¶ The engineering electives must meet the following requirements (12 hours required):
1. A minimum of three hours must be selected from engineering courses outside of the ME department.
2. A minimum of six hours must be selected from ME department electives.
3. The remaining three hours can be selected either from ME department elective courses or engineering courses outside the ME department.

Lower-Division Courses
101. Introduction to Machines and Design. (3) IR; 6L
Students participate in mechanical dissection where they disassemble and reassemble a machine to learn how it operates and develop an understanding of mechanical devices. The knowledge and experience from the mechanical dissection forms the basis for an introduction to the design process. Student groups design and build a mechanical device to perform some task in the design project. Prerequisite: Mechanical engineering declared or departmental consent.

150. Workshop in Mechanical Engineering. (1-3) Designed to provide specialized instruction in areas relevant to mechanical engineering. Variable format. Repeatable for credit.

250. Materials Engineering. (3) Study of important structural materials used in engineering, including metals, polymers and composites, primarily from a phenomenological viewpoint. Prerequisites: Chem. 111Q, Math 242.

251. Materials Engineering Laboratory. (1) 3L Companion laboratory course to Materials Engineering. Experimental study of important structural materials used in engineering, including metals, polymers and composites. Corequisite: ME 250.

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 cam mechanisms. Synthesis of plane linkages and simple cam systems. Computer applications. Prerequisites: IE 222 and AE 325, which may be taken concurrently.

389. Thermodynamics I. (3) An introduction to the terminology and analysis techniques specific to thermodynamics centered around a study of the First and Second Laws of Thermodynamics. Prerequisites: Math. 243 and Phys 313Q.

402. Mechanical Instrumentation. (3) 2R; 1L
An introduction to modern measurement techniques in mechanical engineering. Prerequisites: ME 339, EE 262 and Math 555.

439. Mechanical Engineering Design I. (3) Principles of mechanical design, emphasizing the application of basic thermodynamic devices—shafts, bearings, gears, brakes, clutches, thread fasteners, etc. Includes machine elements design, materials selection, life and stress concentration, statistical concepts and cost standardization. Innovative practical applications demanding integration of machine elements into practical devices. Prerequisites: ME 339, AE 333 and Math 555.

450. Selected Topics in Mechanical Engineering. (1-3) New or special topics presented on a sufficient demand. Repeatable for credit when subject matter warrants. Prerequisite: departmental consent.

451. Technical Entrepreneurship. (3) A junior/senior level course which carries design credit and integrates into the design process topics of technical entrepreneurship. The engineering student gains an appreciation for issues faced by a business in bringing a new or improved design to the marketplace. Also the student is encouraged to 'take the next step' towards taking their own engineering ideas beyond the prototype stage and to the marketplace. Prerequisite: Mechanical engineering declared or departmental consent.

159. Workshop in Mechanical Engineering. (1-3) Designed to provide specialized instruction in areas relevant to mechanical engineering. Variable format. Repeatable for credit.


481A. Co-op Education. (3) Introduces the student to the practice of engineering work in industry by providing the engineering-related job and provides planned professional experience designed to complement and enhance the student's academic program. Prerequisites: ME 251 and AE 373, which may be taken concurrently.

481P. Co-op Education. (1) Introduces the student to engineering practice by working in industry in an engineering-related job and provides 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. Intended for students who will be working during the time of their co-op assignment and may be enrolled in courses leading to a mechanical engineering degree. Prerequisites: junior standing and approval by the appropriate faculty sponsor. May be repeated. Offered Cr/NCr only.

Courses for Graduate/Undergraduate Credit
- Undergraduate required courses are normally not acceptable for graduate credit toward a degree in mechanical engineering.

502. Thermodynamics II. (3) Continuation of Thermodynamics I, emphasizing cycle analysis, thermodynamic property relationships and psychrometrics, with an introduction to combustion processes and chemical thermodynamics. Prerequisites: ME 389 with grade of C or better.

503. Mechanical Engineering Systems Laboratory. (2) 1R, 3L Selected experiments to illustrate the methodology of experimentation as applied to mechanical and thermal systems. Explores the measurement of performance of typical systems and evaluation of physical properties and parameters of systems. Group design and construction of an important part of the course. Prerequisites: ME 402, 541. Corequisites: ME 541, 552.


522. Heat Transfer. (3) Temperature fields and heat transfer by conduction, convection and radiation. Steady and transient multidimensional conduction, free and forced convection and combined heat transfer. Discusses various analytical methods, analogies, numerical methods and approximate solutions. Prerequisites: ME 521.

531. Fluid and Heat Flow Laboratory. (1) 3L Laboratory course designed to illustrate and reinforce the concepts in ME 521 and ME 522. Prerequisites: ME 521; corequisites: ME 522.

541. Mechanical Engineering Design II. (3) Applications of 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 250 and 439.
544. Design of HVAC Systems. (3). Analysis and design of heating, ventilating and air-conditioning systems based on psychrometrics, thermodynamics and heat transfer fundamentals. Focuses on design procedures for space-air-conditioning and heating and cooling loads in buildings. Prerequisites: ME 521, ME 522 or equivalent.

550. Selected Topics in Mechanical Engineering. (1-3). New or special topics are presented on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent.

560. Biomechanical Engineering. (3). Study of the physiology and biophysics of the living body from the viewpoint of basic mechanical engineering principles. Introduces and discusses various artificial organs and life support systems. Prerequisites: ME 521 and Math 555.

563. Heat Exchanger Design. (3). Covers analytical models for forced convection through tubes and over surfaces, experimental correlations for the Nusselt number and pressure drop; design of single and multiple pass shell and tube heat exchangers; compact baffled, direct contact, plate, and fluidized bed heat exchangers, radiators, recuperators, and regenerators. Prerequisites: ME 521, ME 522 or equivalent.

564. Introduction to Fatigue and Fracture. (3). A review and analysis of the basic principles of failure behavior and propagation of cracks. Emphasis on the production of design criteria and evaluation of their application to industrial problems. Prerequisites: ME 250 and AE 333.

565. Selection of Materials for Design and Manufacturing. (3). Focuses on the selection of materials to meet product and manufacturing requirements. Solution to various product and manufacturing problems by appropriate selection of materials is illustrated through the use of numerous examples and case studies. Prerequisites: ME 250, AE 333.

566. Materials in Manufacturing Processes. (3). Deals with fundamental principles of materials and their applications to manufacturing processes. Prerequisites: ME 250, AE 333.

567. Mechanical Properties of Materials I. (3). Major focus is on deformation mechanisms and crystal defects that significantly affect mechanical properties. Also covered are plasticity theory, yield criteria for multi-axial states of stress, fracture mechanics, and fracture toughness. Some review of basic mechanics of materials and elasticity is included as needed. Prerequisites: ME 250 or departmental consent.

568. Acoustics. (3). Fundamentals of acoustics including the study of simple harmonic systems, acoustic waves, transmission phenomena, environmental and architectural acoustics. Prerequisites: Math 555, AE 373.

569. Acoustics. (3). Studies in Mechanical Engineering. (1-3).* Arranged individual, independent study in specialized content areas in mechanical engineering under the supervision of a faculty member. Requires written report or other suitable documentation of work for departmental records. Three (3) hours maximum technical elective credit. Not for graduate credit. Prerequisite: departmental consent.

701. 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: ME 521 or departmental consent.

719. Basic Combustion Theory. (3). Introduction to the fundamental principles of combustion processes. The chemistry and physics of combustion phenomena, i.e., detonation and flames, explosion and ignition processes will be examined. Prerequisites: Chem. 111Q and ME 502.

729. Computer-Aided Analysis of Mechanical Systems. (3). Modeling and analysis of planar motion for multidisciplinary systems including automatic generation of governing equations for kinematic and dynamic analysis, as well as computational methods and numerical solutions of governing equations. Open-ended student projects on engineering applications such as vehicle ride stability simulations for different terrains. Prerequisites: ME 339, AE 373 and Math 555.


737. Robotics and Control. (3). A systems engineering approach to robotic science and technology. Fundamentals of manipulators, sensors, actuators, end-effectors and product design for automation. Includes kinematics, trajectory planning, control, programming of manipulators and simulation, along with introduction to artificial intelligence and computer vision. Prerequisite: ME 659 or equivalent.

739. Advanced Machine Design. (3). A broad coverage of principles of mechanical analysis and design of machine elements. Emphasis will be on dynamic system modelling, prediction of natural frequencies and forced response, effect of support flexibility, failure theories used in design, and fatigue life prediction. Typical mechanical systems studies are gears, bearings, shafts, rotating machinery, and many types of spring-mass systems. Fundamentals learned in mechanics, strength of materials, and thermal sciences are used to understand mechanical system modelling, analysis, and design. Prerequisite: ME 541 or instructor's consent.

744. Advanced Environmental Engineering. (3). A continuation of ME 544 emphasizing building energy systems related to the design and selection of heating, ventilating and air conditioning equipment and distribution subsystems. Prerequisite: ME 544 or departmental consent.

747. Microcomputer-Based Mechanical Systems. (3). 2R: 3L. Microcomputer-based real-time control of mechanical systems. Familiarizes students with design and methodology of software for real-time control. Includes an introduction to the C programming language with emphasis on modules most relevant to interfacing and implementation of control theory in computer-based systems. Laboratory sessions involve interfacing microcomputers to mechanical systems and software development for control methods such as PID. Prerequisite: ME 402 or departmental consent.

749. Kinematics and Dynamics of Machines. (3). Analysis and synthesis of mechanisms; force analysis of machines. Prerequisite: ME 439.

750. Special Topics in Mechanical Engineering. (1-3). New or special topics are presented on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent.
Courses for Graduate Students Only

802. Turbulence. (3). An overview of the theory, practical significance and computation of turbulent fluid flow. Prerequisites: ME 521 and ME 701.

829. Advanced Computer-Aided Analysis of Mechanical Systems. (3). Computational methods in modeling and analysis of spatial multibody mechanical systems. Includes Euler parameters; automatic generation of governing equations of kinematics and dynamics; numerical techniques and computational methods; computer-oriented projects on ground vehicles with suspension and steering mechanisms, crashworthiness and biodynamics. Prerequisite: ME 729 or instructor's consent.

832. Failure Analysis Applications in Mechanical Design. (3). Application of engineering fundamental to the study of mechanical failure brought about by the stresses, strains and energy transfers in machine elements that result from the forces, deflections and energy inputs applied. Emphasis on recognition, identification, prediction and prevention of failure modes that are prevalent in machine-element design. Prerequisite: ME 439 or departmental consent.

847. Applied Automation and Control Systems. (3). 2R; 3L. Control theory condensed to engineering practice with the analysis, design and construction of operating control systems. Experiments with pneumatic, hydraulic and electro-mechanical servo-systems. Implementation of feedback and feedforward control schemes for various industrial systems and machine tools. The experiments are project oriented intended to be representative of the current state-of-the-art in classical and modern control practice. Prerequisite: ME 439 or departmental consent.

850. Special Topics in Mechanical Engineering. (3). New or special topics are presented on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent.

851. Principles and Applications of Conduction Heat Transfer. (3). Theory and measurement, Fourier's equation, steady and unsteady state with and without heat sources and sinks and numerical methods. Prerequisites: ME 522, Math. 757 or departmental consent.

852. Principles and Applications of Convective Heat Transfer. (3). Free and forced convection in laminar and turbulent flow. Includes analysis and synthesis of heat transfer equipment. Prerequisite: ME 522 or departmental consent.


854. Two-Phase Flow Heat Transfer. (3). Thermodynamic and mechanical aspects of interfacial phenomena, boiling and condensation near immersed surface, pool boiling, internal flow convective boiling and condensation. Prerequisites: ME 522, Math. 555 or departmental consent.

856. Advanced Thermodynamics. (3). Statistical thermodynamics, Boltzmann Bose-Einstein and Fermi Dirac distributions, calculation of thermodynamics properties, elementary kinetic theory, introduction to irreversible thermodynamics. Prerequisite: ME 502 or departmental consent.


861. Similitude in Engineering. (2). Critical analysis of models and analogies as aids to engineering design. Prerequisite: departmental consent.

866. Advanced Fracture Mechanics. (3). Covers the fracture mechanics of elastic-brittle, ductile, time dependent and heterogeneous materials at an advanced level. The material is suitable for graduate study only in metallurgy and materials, mechanical engineering and aerospace engineering where a combined materials-fracture mechanics approach is stressed. Prerequisites: ME 250, ME 398 or departmental consent.

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.

876. Thesis. (1-4). Graded S/U only. Repeatable for credit toward the MS Thesis option up to six hours. Prerequisite: Consent of MS Thesis advisor.

887. Directed Studies. (1-4). Graded S/U only. Repeatable for credit. 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.

901. Advanced X-Ray Diffraction Theory. (3).
First part 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. Second part emphasizes the general theory of X-ray diffraction in a concise and elegant form using Fourier transforms. The general theory is then applied to various atomic structures, ideal crystals, imperfect crystals and amorphous bodies. Prerequisites: ME 767, Math. 737.

958. Computational Fluid Dynamics and Heat Transfer II. (3). Vector form of the Navier-Stokes 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 858 or equivalent.

960. Advanced Selected Topics. (1-3). New or specialized advanced topics in mechanical engineering. Prerequisite: Instructor’s consent.


990. Advanced Independent Study. (1-16). Arranged individual, independent study in specialized content areas. Repeatable toward the PhD degree. Prerequisites: advanced standing and instructor’s consent.

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.
The college strives to develop and utilize professional training programs at the School of Performing Arts—Dance and Theatre, offering both general arts study and professional training programs at the undergraduate level; professional degrees are offered at the graduate level.

Students are offered a complete spectrum of artistic endeavors, whether they are interested in professional activities, teaching careers, graduate study or acquiring an appreciation of the arts. Students have the opportunity to explore various art forms as well as to develop their ability to respond to changes and challenges within the world of the arts. The college strives to develop and utilize new artistic techniques, current historical research and recent technical innovations to achieve these ends.

The School of Music is an accredited member of the National Association of Schools of Music and the dance program is an accredited member of the National Association of Schools of Dance. Both programs follow requirements for entrance and graduation that are in accordance with the associations’ published regulations.

Degrees Offered

Undergraduate

The College of Fine Arts offers five undergraduate degrees: Bachelor of Arts (BA), 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 school programs.

Graduate

The Graduate School offers a program leading to the Master of Fine Arts (MFA) with concentrations in ceramics, painting, printmaking and sculpture; the Master of Arts (MA) in art education and in communication/theatre; a Master of Music Education (MME) with concentrations in elementary music, instrumental music, choral music and music in special education; and a Master of Music (MM) with concentrations in history-literature, performance, piano pedagogy, instrumental conducting 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 with 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 who declare a major within a discipline in the College of Fine Arts, or who enter as a general “undecided” student in a Fine Arts discipline, will be enrolled in and advised by the school that houses the discipline (Art and Design; Music; Performing Arts—Theatre and Dance). All students must maintain a grade point average of 2.00 or above to remain in good standing (see Academic Probation and Dismissal Standards, p. 16).

Transfer students must present an earned GPA of 2.00 or higher for all prior college work in order to be fully admitted into a School within the College of Fine Arts. Transfer students with a GPA of at least 1.70 but less than 2.00 may petition for probationary admission.

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 WSU grade point average of at least 2.00. Students enrolled in either the music education or art education programs must have a cumulative grade point average of 2.50 prior to enrolling in student teaching.

Students who do not achieve or maintain the required 2.00 grade point average will be placed (or continued) on probation at the conclusion of each semester in which their overall WSU grade point average falls below 2.00. Students on probation are limited to a maximum of 12 credit hours per semester while on probation. Students will be dismissed at the end of the semester in which they accumulate 12 attempted credit hours with a semester and WSU grade point average below the minimum required after being placed on probation. Students are not academically dismissed at the end of a semester unless they began that semester on academic probation.

Transfer students admitted on probation must complete at least 12 semester hours with a minimum grade point average of 2.00 on work at Wichita State before probation may be lifted. If a grade point average of 2.00 is not achieved for the first attempted 12 hours of Wichita State work, transfer students admitted on probation will be dismissed from the University.

Students who have been dismissed for poor scholarship may be readmitted by the permission of the Curriculum and Policy Committee of their major division in the College of Fine Arts and by the University’s Committee on Admissions and Exceptions.

General Education Requirements

(Applicable to students entering fall semester 1994)

Basic Skills...........................................12
English 100 or 101, and 102
Communication 111
Mathematics 111 or 112
Fine Arts and Humanities..........................12
One introductory course from a fine arts discipline
One introductory course from two humanities disciplines.
One further study course from the same discipline as one of the introductory courses, above, or an Issues and Perspectives course in fine arts or humanities.
Social and Behavioral Sciences...................9
One introductory course each from two different social and behavioral science disciplines.
One further study course from the same discipline as one of the introductory courses, above, or an Issues and Perspectives course in social and behavioral science.
Natural Sciences and Mathematics.............9
One introductory course each from two
different natural sciences and mathematics disciplines.

One further study course from the same discipline as one of the introductory courses, above, or an Issues and Perspectives course in natural sciences and mathematics.

An introductory course meets general education objectives and serves as an introduction to the discipline. A further study course is taken in a discipline once a student has completed an introductory course in the same discipline. An Issues and Perspectives course is designed as an interdisciplinary course or is intended to inform students of issues or problems from a disciplinary perspective. Students may take either a second course in a discipline represented by an introductory course or an Issues and Perspectives course from the division housing that discipline. Students must complete at least one and not more than two Issues and Perspectives courses to fulfill General Education Program requirements. Courses within the student’s major discipline do not count toward General Education Program requirements.

Fine Arts—General

301. An Introduction to Entrepreneurship in the Arts. (3). Helps students focus on business and marketing aspects of the arts. An examination from the artist’s perspective of techniques for launching a career in the arts. Giving attention to elementary concepts of marketing artistic talents, goal setting, financing, legal issues and public demographics.

590. Special Topics in the Fine Arts. (1-4). For group instruction. Course may be repeated for credit. Course involves interdisciplinary upper division/graduate level topics with the fine arts (music, art, dance, and theater). Prerequisite: Senior undergraduate or graduate standing or instructor’s consent.

School of Art and Design

Donald Byrum, Chair
The School of Art and Design offers four program areas: design, studio arts, art history, and art education. These programs offer professional courses within the BA and BFA degrees to train and educate art and design majors. Students in academic programs other than art are encouraged to enroll in art history and studio courses to gain an understanding of art and extend their visual literacy.

The programs of study at the School of Art and Design are designed to demand from each student the self-discipline needed to expand options while pursuing a chosen direction. Many entering students have not yet identified the art discipline in which they wish to develop their strength. Others enter the School with a clear professional direction. Through structured programs which provide ample opportunity for experimentation, the School meets the needs of all its students.

During the first year of study, the Foundation curriculum will develop technical skills. These fundamental skills provide the basis for the development of understanding and creating art forms. The same professional faculty members who teach advanced art courses teach these fundamental skills.

Art students have excellent classroom and laboratory facilities in the McKnight Art Center and renovated Henrion Annex. The center provides extensive space for exhibiting student work. The Clayton Staples Gallery offers guest artist and thematic exhibits in addition to featuring BFA and MFA graduation shows.

At the Edwin A. Ulrich Museum of Art in McKnight Art Center, students can view a wide range of exhibitions and hear a variety of visiting artists and guest lecturers. The Lewis and Selma Miller Fund and the Equinox Society also provide programs of regional and national interest.

Attendance

The undergraduate art and design student is expected to attend all scheduled classes and examination periods. At the discretion of the faculty member, the student may be failed in a course, or given a lowered grade, on the basis of excessive absences. In high enrollment demand classes, a student who misses the first two class meetings will be asked to drop the course. In cases of serious illness, or extended absence, the Chair of the School of Art and Design should be notified.

Supplies Charge

In addition to University fees, the School of Art and Design requires that students pay a supplies charge on a per-course basis for enrollment in certain courses where materials such as clay, plaster, or printers ink must be provided for the class rather than purchased individually.

Transfer Students

The School of Art and Design accepts transfer students from accredited institutions of higher education and strives to keep the loss of credit to a minimum. The transfer student must be prepared to complete a minimum of 30 semester hours of undergraduate art course work on the Wichita State University campus.

Student Art Work

The School of Art and Design reserves the right to keep art work submitted for course credit. In practice, this right is exercised sparingly, both in certain studio areas the selection of one piece by each graduating student contributes to an important instructional collection which is of great value to other students. The faculty also reserves the right to temporarily withhold art work for exhibition, and students are encouraged to exhibit work in the school as a significant part of the educational experience. At the same time, the School and the University cannot insure student art work for exhibition purposes or take responsibility for its loss or damage under any circumstances. At the end of each semester, all students are required to remove from classrooms, laboratories, and studios all personal supplies and valued art work.

Graduation Requirements

Minor in Art

All students except art and design majors may complete 18 credit hours of art and be awarded the Minor in Art. Recommended plans of study for studio art, art history, design, or art education are available in the office of the School.

Bachelor of Arts in Art

The School of Art and Design offers a Bachelor of Arts degree (BA) in Art with a concentration in either art history or studio arts. This program is designed for students who want a strong liberal arts education with a concentration in art. By requiring two-thirds the number of art requirements of the BFA degree, the BA allows the student to attain a more developed academic education while still gaining a breadth of art experiences. The core curriculum of the required introductory art courses prepares students for the advanced level courses listed in the concentrations. In addition to the University’s scholastic, residence, and general education requirements, candidates for the BA must complete the core curriculum (12 hours), art history (6 hours), introductory art (15 hours), fine art electives (12 hours), and the concentration (15 hours). The specific course requirements for the BA with a concentration in art history or studio arts are given in the art history and studio arts sections of the Catalog. Model programs of study are available in the School office.
Bachelor of Fine Arts

The Bachelor of Fine Arts degree is the initial professional degree in art and design. Its primary emphasis is on the development of skills, concepts, and sensibilities essential to the professional artist of designer.

The School of Art and Design offers the Bachelor of Fine Arts degree (BFA) in design—graphic design, illustration, multi-media, or three-dimensional design; studio arts—ceramics, painting/drawing, printmaking, or sculpture; and art history. In addition to the University’s scholastic, residence, and general education requirements, candidates for the BFA must complete the Foundation curriculum (21 hours), art history (6 hours), introductory art (21 hours), art electives (9 hours), and the concentration (24 hours). The specific requirements for the BFA with a concentration in art history or studio arts are given in the design, studio arts, or art history are described under the appropriate program sections of the Catalog. Model programs of study are available in the School office.

Bachelor of Art Education

Competence in basic studio skills is emphasized in the Bachelor of Art Education degree. In addition to the common core of studio skills and general studies, the student electing a career in teaching develops competencies in professional education and in specific studio areas. The professional education component is dealt with in a practical context, relating the learning of educational theories and strategies to the student’s day-by-day artistic experiences. Students are provided opportunities for various types of teaching and directed observation through the period of undergraduate art education study.

In addition to meeting the University’s scholastic, residence, and general education requirements for graduation, candidates for the BAE must complete the Foundation curriculum (21 hours), art history (6 hours), introductory art (12 hours), art specialization (9 hours), the art education concentration (24 hours), and professional education courses (32 hours). Courses within the art education curriculum fulfill 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. Model programs of study are available.

School Requirements and Course Listings

Foundation

The following courses will be required of all undergraduate art major students. Either the Foundation curriculum (21 hours) or the Core curriculum (12 hours) as designated in respective BFA or BA programs must be completed by the time students have completed 60 credit hours or junior status or prior to entry to classes where individual courses serve as prerequisites.

Transfer students with 60 hours and Foundation requirement deficiencies must complete course deficiencies no later than two semesters following entry.

Lower-Division Courses

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. Includes elements of line, shape, space, texture and value. Instructional process includes lecture, critique and supervised studio practice.

137. Foundation Design II (3). A continuation of Art F. 136 emphasizing 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.

145. Foundation Drawing I (3). Introduction to visual arts concepts, vocabulary, tools, materials, basic drawing skills and attitudes through the drawing experience. Teaches 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.

146. Foundation Drawing II (3). Reinforcement and elaboration of the concepts studied in Art F. 145 through introduction of abstraction, use of color, visualization and other strategies for manipulating imagery. Students apply concepts to problems associated with composition, imaginative reconstructions and idea generation. Structured sketchbook assignments. Prerequisite: Art F. 145.

189. 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 combinations of materials, techniques, forms and concepts. Also emphasizes learning to handle equipment and tools properly.

240. Foundation Life Drawing. (3). Introduction to drawing the human form emphasizing critical inquiry and analytical observation. Includes the study of skeletal and muscular structure. Students 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. Lab fee. Prerequisites: Art F. 145 and 146.

Art History

The art history area offers the BA and BFA degrees with concentration in art history. The area also offers support courses for design, art education, studio arts, and general education. Students develop a fundamental knowledge of art within a cultural and historical framework, and a basic understanding of art terms, concepts, and theory relevant to all visual arts studies. Advanced level courses prepare students for professional pursuit of art history, museum studies, conservation, criticism, and secondary level teaching.

Bachelor of Arts in Art History

The Bachelor of Arts in Art History has a liberal arts perspective and is the initial professional degree in the field in preparation for graduate study in art history. Its primary emphasis is on the presentation of knowledge of the monuments and principal artists of all major art periods of the past and a broad understanding of the development of the art of the 20th century. This knowledge is augmented by study in greater depth and precision of several periods in the history of art and concentration in at least one area to the advanced seminar level. Students are required to have a reading proficiency in at least one major foreign language to support research through the reading of primary source materials.

Requirements. A minimum of 124 semester hours is required for a major with 60 art credits distributed as listed below:

Area Hrs.
Core Curriculum..............................................12
Art F. 136 Design I
Art F. 145 Drawing I
Art F. 189 3-D Design
Art F. 240 Life Drawing
Art History 426.............................................6

Art H. 121G, Survey of Western Art: Ancient, Art H. 122G Survey of Western Art: Renaissance and Baroque

Introductory Art.............................................15
Art H. 124 Survey of Western Art: Modern, plus art history courses as defined by faculty advisor

Fine arts electives.........................................12
Fine arts courses which complement the Introductory Art courses and the Art History concentration

Art History Concentration..............................15
Art H. 426 Seminar: Technique of Art
Bachelor of Fine Arts in Art History

The Bachelor of Fine Arts in Art History combines intensive studies in art history with a thorough background in studio art. Students are expected to have an in-depth knowledge of one or more periods in the history of art and significant technical proficiency in one or more studio art areas. A reading proficiency of a major foreign language is required and courses in history, aesthetics, and cultural anthropology are strongly recommended.

Requirements. A minimum total of 126 semester hours is required for a major with 81 art credits distributed as listed.

Area Hrs.
Core Curriculum ........................................... 21
Art F. 136 Design I, Art F. 137 Design II,
Art F. 145 Drawing I,
Art F. 146 Drawing II,
Art F. 189 3-D Design,
Art F. 240 Life Drawing, studio elective
Art History 426 ............................................. 6
Art H. 121G, Survey of Western Art:
Ancient, Art H. 122G Survey of Western
Art: Renaissance and Baroque
Introductory Art ............................................. 21
Art H. 124 Survey of Western Art:
Modern, Art H. 300+ Art History,
Art S. 250 Oil and Alkyd Painting,
Art S. 260 Printmaking I, Art S. 270
Basic Ceramics or 272 Handbuilding,
Art S. 280 Sculpture,
Art S. 340 Life Drawing
Arts electives .............................................. 9
Courses which complement the
Introductory Art courses and the Art
History concentration
Art History Concentration ............................ 24
Art H. 426 Seminar: Technique of Art
History, plus courses as defined by
faculty advisor

Note: A reading proficiency of a major
foreign language and 40 credit hours of
upper-division art courses are required for
the BFA in Art History.

Lower-Division Courses

>121G. Survey of Western Art: Ancient. (3),
Division A course/elective. A historical survey of art of Egypt, Greece and Rome.

>122G. Survey of Western Art: Renaissance
and Baroque. (3), Division A course/elective.
A historical survey of art from the Renaissance
to the 18th century.

100

historical survey of early Christian and Gothic
art and architecture from the 5th through 14th
centuries.

100

>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.

100

125. Non-Western Visual Traditions: North
American Indian, Oceanic, and African Art.
(3). Explores the native arts of Africa, the
Americas, and of Oceania; the importance of
the cultural, social, and political background
of these arts and their function in society.

223. Northern Renaissance. (3). A study of
French, Flemish and German painting from
Parisian illumination in the 14th century to
Durer.

281. Cooperative Education. (1-8). Allows
students to participate in the cooperative
education program. Offered Cr/NCr only.

Upper-Division Courses

322. Medieval Art I. (3). A study of the art of
Europe and Byzantium from the time of Con-
stantine to Charlemagne. Emphasizes style and
iconography as it develops in mosaics and
illustrated manuscripts.

323. Medieval Art II. (3). A study of
Romanesque and Gothic architecture and
sculpture with special attention to the
developments in France.

324. Northern Baroque. (3). A study of the art
of Flanders and Holland during the 17th century.
While a variety of artistic expression is
shown with examples from a great many
artists, the discussion culminates in an
exensive study of the two dominant figures, Peter
Paul Rubens and Rembrandt van Rijn.

325. Art of the Ancient Near East and Egypt.
(3). Study of the arts of ancient Egypt
and Mesopotamia, concluding with a consideration
of the interaction between Near Eastern art
classical art.

421Q. Art of Ancient Greece. (3). A study of
the development of Greek art from the Archaic
to Hellenistic periods. Covers architecture,
sculpture and painting emphasizing sculpture
and the art of Periclean Athens.

422. Art of Ancient Rome. (3). A study of
the development of the art of Imperial Rome from
the age of Augustus to the age of Constantine the
Great.

426. Seminar: Techniques of Art History. (3).
A culminating study for senior art history
majors which considers the history of the discipline,
its research methods and theory.
Requires extensive readings and reporting.
Prerequisite: Instructor's consent.

481. Cooperative Education. (1-8). See Art H.
281.

Courses for Graduate/Undergraduate Credit

520. Seminar in Art History. (3). Systematic
study in selected areas of art history. Course
content varies but individual areas are not
repeatable for credit.

521Q. Italian Renaissance. (3). Division A
course/elective. A study of the architecture,
sculpture and painting from the 13th to the
16th century. Emphasizes early developments
in Florence and Siena and late developments in
Rome.

522. Italian Baroque. (3). A study of Baroque
painting, sculpture and architecture in Rome,
Venice and Bologna from 1600 to 1750 empha-
sizing the Carracci, Caravaggio, Bernini and Tie-
polo.

523. 18th and 19th Century European Art. (3).
A history of European art from Watteau
through post-Impressionism.

524. 18th and 19th Century American Art. (3).
A history of American art from the colonial
period through the 19th century.

525. 20th Century Art Before 1945. (3). A his-
tory of American art in the first half of the 20th
century.

526. Art Since 1945. (3). A study of the history
of art in the United States from 1945 to the pres-
tent, stressing the relationship between con-
temporary trends in criticism and artistic
practice.

528. Museum Techniques I. (3). Primarily for
the graduate student interested in museum
work. Includes specialized research related to
administrative responsibilities of a museum:
collection, exhibition, recording, preservation
and financial activities.

529. Modern Architecture. (3). An overall view
of the development of modern architecture
from its inception in the early 20th century
until today. Stresses theoretical connections
between architecture and the arts of painting
and sculpture as they developed in the United
States and Europe.

530. The Art of Classical Greece. (3). A study
of painting, sculpture and architecture of
Greece during the 5th and 4th centuries B.C.

531. The Art of Hellenistic Greece. (3). A study
of the painting, sculpture and architecture
of Greece during the Hellenistic period,
4th to 1st centuries B.C.

532. Independent Study in Art History. (1-3).
Work in a specialized area of the study of art
history. Directed reading and projects.
Prerequisite: Instructor's consent.

533. Seminar: Topics in Modern Art. (3).
Selected readings and problems in art of the
modern era. Course content varies but individ-
ual areas are not repeatable for credit.

534. History of Photography. (3). History of
photography stressing techniques, media, pro-
cesses, interrelations with other visual arts,
style questions, genres, and criticism.

721. Introduction to Art History for Teachers
I. (3). A historic and stylistic overview of the
development of art from prehistoric through
medieval times. Emphasizes how art history can be integrated into art and nonart classroom curriculums. Specifically for early childhood, elementary and secondary teachers. Approved for recertification credit for elementary and secondary teachers by KSBOE.

722. Introduction to Art History for Teachers II (3). A historic and stylistic overview of the development of art from the Renaissance to the present. Emphasizes how art history can be integrated into art and nonart classroom curriculums. Specifically for early childhood, elementary and secondary teachers. Approved for recertification credit for elementary and secondary teachers by KSBOE.

732. Independent Study in Art History (3). Work in specialized area of the study of art history. Directed readings and projects for graduate students in all disciplines. Prerequisite: instructor’s consent.

Courses for Graduate Students Only


832. Independent Study. (1-3). Individually supervised work in a specialized area of the study of art history. Directed readings, research and projects. Repeatable for credit. Prerequisites: suitable preparation for graduate work in art history (e.g., BA or BFA in art history) and instructor’s consent.

Design—Visual Communication Art

Design programs are often classified as the communication arts, advertising arts, or visual communication. The professional practitioners are concerned with ideas and problem solving to effectively meet the communication needs of clients as diverse as corporations, publishers, advertising agencies, public and private institutions, and television stations. Design majors are trained to analyze visual communication problems as presented by client case studies, define the most appropriate approach, and implement creative and aesthetic solutions. The broad range of media used to investigate solutions to design problems include: print, advertising, packaging, presentation, computer graphics, photography, video, and television.

Bachelor of Fine Arts in Design

The design area offers the Bachelor of Fine Arts in Design with concentrations in graphic design, illustration, 3-dimensional design, and multi-media. The BFA in Design degree is the professional education and training degree for the visual communication arts field. The Foundation curriculum and the preparatory course work in the design program enables design majors to select one of the four program concentrations to meet their vocational goal. Students are required to participate in the Portfolio Review during the second semester of their junior year and enroll in Senior Terminal Project during their final two semesters.

BFA in Design—Graphic Design

The graphic design concentration provides coursework in photography, typography, computer graphics, design, and drawing.

Requirements. A minimum total of 126 hours is required for the BFA in Design with the Graphic Design Concentration and includes 81 semester hours of art courses listed below.

Area

Core Curriculum ........................................21
Art F. 136 Design I, Art F. 137 Design II,
Art F. 145 Drawing I, Art F. 146
Drawing II, Art F. 189 3-D Design,
Art F. 240 Life Drawing, studio elective
Art history ..................................................6
Art H. 124, Survey of Western Art:
Modern, 300+ Art History
Introductory Art .....................................21
Art G. 200 Intro to Computer Graphics,
Art G. 323 Typography, Art G. 234
Layout and Production, Art G. 239
Design Structure, Art G. 330 Still
Photography for Graphic Design,
Art G. 331 Film/Video for Graphic
Design, Art G. 334 Design Production
Art electives ............................................9
Art G. 335 Design Studio I, Art G. 430
Television for Graphic Design, plus one
design elective course
Illustration Concentration ....................24
Art G. 337 Advertising Illustration,
Art S. 340 Life Drawing Studio,
Art S. 345 Intermediate Drawing,
Art G. 435 Design Studio III,
Art G. 437 Advanced Advertising
Illustration, Art G. 445 Senior Terminal
Project, Art G. 481 Cooperative
Education, Art S. 250 Oil and Alkyd
Painting or Art S. 251 Watercolor and
Acrylic Painting, or Art G. 337
Advertising Illustration or Art G. 437
Advanced Advertising Illustration*
repeatable course
Note: 40+ upper-division hours are required for graduation.

BFA in Design—3 Dimensional Design

The 3 dimensional design concentration provides coursework in packaging, signage, point of purchase, and exhibit design.

Requirements. A minimum total of 126 hours is required for the BFA in Design with the 3 Dimensional Design Concentration and includes 81 semester hours of art courses listed below.

Area

Core Curriculum ........................................21
Art F. 136 Design I, Art F. 137 Design II,
Art F. 145 Drawing I, Art F. 146
Drawing II, Art F. 189 3-D Design,
Art F. 240 Life Drawing, studio elective
Art history ..................................................6
Art H. 124, Survey of Western Art:
Modern, 300+ Art History
Introductory Art ..................................21
Art G. 200 Intro to Computer Graphics,
Art G. 323 Typography, Art G. 234
## BFA in Design - Multi-Media

The multi-media concentration provides coursework in photography, video, television, lighting technology, stage directing, typography, computer graphics, and layout design.

### Requirements
A minimum total of 126 hours is required for the BFA in Design with the Multi-Media Concentration and includes 81 semester hours of art courses listed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum</td>
<td>21</td>
</tr>
<tr>
<td>Art History</td>
<td>6</td>
</tr>
<tr>
<td>Art H. 124, Survey of Western Art, Modern, 300+ Art History</td>
<td>40</td>
</tr>
<tr>
<td>Introductory Art.</td>
<td>21</td>
</tr>
<tr>
<td>Art electives</td>
<td>9</td>
</tr>
<tr>
<td>Art G. 335 Design Studio I, Art G. 430 Television for Graphic Design, plus one design elective course</td>
<td>3</td>
</tr>
<tr>
<td>Multi-Media Concentration</td>
<td>24</td>
</tr>
</tbody>
</table>

### Lower-Division Courses

#### 200. Introduction to Computer Graphics. (3)
Introductory course in computer graphics and fundamental application as a set of contemporary tools for creative imaging. Students learn the basic skills required for text, paint and draw programs, digitizing images, and how to use separately these skills or to integrate them into electronic publishing. Prerequisites: Art F 136, 137, and 145.

#### 210. Visual Communication. (3)
An introductory study of visual images and their use as symbol in communicating information in the mass media.

#### 230. Basic Art Photography. (3)
Introduces beginning photo students to basic camera operations, film and paper characteristics, darkroom procedures and a historical overview of the development of photography. Students have an opportunity to acquire skills and techniques appropriate to photographic materials emphasizing the application of fundamentals of design. For students not majoring in graphic design.

#### 231. Basic Photography (Motion Picture). (3)
Introductory course in film production. Non-majors may be required to furnish their own cameras.

#### 233. Basic Typograhy. (3)
A study of type and its application in layout and design. Prerequisites: Art F. 136 and 145.

#### 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. Examinations studio practices and art production problems. Prerequisite: Art G. 233.

#### 239. Design Structures. (3)
Application of three-dimensional design to problems in packaging and visual communication. Mechanical drawing systems using CAD and board technique for visualization, construction techniques, and graphic arts processes for the manipulation of paper as a medium are included. Prerequisites: Art F. 136 and 189, and Art G. 233 and 200.

#### 251. Cooperative Education. (1-8)
Allows students to participate in the cooperative education program. Graded Cr/NCr only.

### Upper-Division Courses

#### 300. Advanced Typography. (3)
An investigation of typography and its relationship and application to visual communication. Prerequisites: Art G. 233 and 234.

#### 330. Still Photography for Graphic Design. (3) Introductory course in still photography with a design emphasis. Development of photographic vision and skills for graphic designers in traditional black and white photography with exposure to digital scanning of traditional silver-based images for computer usage. Non-majors may be required to furnish their own cameras. Prerequisites: Art F. 137 or Instructor’s consent.

#### 331. Film/Video for Graphic Design. (3)
Introductory course in film theory and video with a design emphasis. Examines the language and theory of sequential and moving images in traditional film/television and computerized multi-media forms as applied to graphic design. Prerequisites: Art F. 137, Art G. 200 and 330.

#### 334. Graphic Design—Production. (3)
Development of skills necessary to execute finished art for various printing processes. Prerequisites: Art G. 233, 234.


#### 337. Advertising Illustration. (3)
Development of illustrative technique and investigation of traditional and computer media rendering for black and white reproduction in newspapers and magazines. Discussion includes reproduction, product representations, copyright/studio practices, and ethical considerations. Prerequisites: Art F 240 and Art G 200.

#### 339. Advanced Design Structure. (3)
Advanced study of three-dimensional design as applied to point of purchase, exhibit, and signage system development. Integration of typography, layout, graphic forms, and illustration in the three dimensional solution. CAD modeling and rendering techniques are included. Prerequisites: Art G. 200, 234, and 239.

#### 350. Graphic Design Workshop. (1-3) Repeatable for credit. Area covered is determined at the time the course is offered.

#### 430. Television for Graphic Design. (3)
Examination and application of creative technical design media aesthetics. Graphic design application of traditional order and computerized imagery utilizing the television studio. Prerequisites: Art G 200, 330, 331, or instructor’s consent.

#### 431. Design Media Topics. (3) Advanced study of photography, cinematography or television with a design emphasis. Repeatable for credit. Prerequisites: Art G 330, 331 or instructor’s consent.

#### 434. Graphic Design Intern. (3) On-the-job internship in an art studio or advertising agency. Instruction time divided between arranged location, observation and/or apprenticeship and weekly seminar period. Requires written reports of individual research in addition to a portfolio of samples produced as an intern. Repeatable for credit. Graded Cr/NCr. Prerequisites: interview, portfolio and junior status.

#### 435. Graphic Design Studio II. (3) A programmed approach to problem solving. Includes concept, layout approaches for various projects and skill development for produc-
ing portfolio quality work. Prerequisites: Art G 334, 335 and senior standing in graphic design.

437. Advanced Advertising Illustration. (3). Concentration in editorial illustration emphasizing imaginative and creative problem solving. Explores a variety of media and techniques. Repeatable for credit. Prerequisite: Art G 337.

438. Advanced Color and Design. (3). A study of color as it relates to format, typography, visual images, and print reproduction in communication design. Integration of computer and hand techniques for visualization and production are included. Prerequisite: Art G 200 and 234.

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.

481. Cooperative Education. (1-8). See Art G 281.

493. Book Design and Production. (3). A laboratory course encompassing all facets of the book including design, type composition, proofreading, illustration, manufacturing, binding materials (cloth, paper and boards) distribution, copyright, royalties and remaining. Students are responsible for the development and publication of a limited edition book. Prerequisites: Art G 334 and 337 or consent of instructor.

Courses for Graduate/Undergraduate Credit

530. Seminar in Graphic Design. (3). Supervised study and research. Requires weekly consultation and reports. Repeatable for credit. Prerequisite: departmental consent.

550. Graphic Design Workshop. (1-3). Repeatable for credit. Area covered is determined at the time the course is offered.

Studio Arts

The studio arts area offers the BA in Studio Arts and the BFA in Studio Arts with concentrations in ceramics, painting, drawing, printmaking, and sculpture for students preparing for careers in art and design. The programs of study provide a thorough grounding in fundamental principles and techniques of the visual arts.

Bachelor of Arts in Studio Arts

The Bachelor of Arts in Studio Arts degree provides a liberal arts emphasis on studio and design studies rather than the more intensive professional program of the BFA. The curriculum aims primarily towards breadth of experience and understanding rather than professional specialization.

Requirements: A minimum total of 124 semester hours is required for the BA in Studio Arts and includes 60 semester hours of art courses as listed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum</td>
<td></td>
</tr>
<tr>
<td>Art F. 136 Design I</td>
<td>12</td>
</tr>
<tr>
<td>Art F. 143 Drawing I</td>
<td></td>
</tr>
<tr>
<td>Art F. 189 3-D Design,</td>
<td></td>
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<tr>
<td>Art F. 240 Life Drawing</td>
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<tr>
<td>Art History</td>
<td>6</td>
</tr>
<tr>
<td>Art H. 124, Survey of Western Art: Modern, 300+ Art History</td>
<td></td>
</tr>
<tr>
<td>Introductory Art</td>
<td>15</td>
</tr>
<tr>
<td>Fine Arts electives</td>
<td>12</td>
</tr>
<tr>
<td>Fine Arts courses which complement the Introductory art courses and the Studio Arts Concentration</td>
<td></td>
</tr>
<tr>
<td>Studio Arts Concentration</td>
<td>15</td>
</tr>
</tbody>
</table>

*repeatable course

Note: 40+ upper-division hours are required for graduation.

Bachelor of Fine Arts in Studio Arts

The Bachelor of Fine Arts in Studio Arts is the initial professional degree in the field in preparation for graduate study in studio arts. This studio experience is of prime importance in the preparation of students for professional careers in art. In this intense program, the student becomes familiar with every aspect, technique, and direction in their chosen BFA concentration. The studio arts major is then expected to achieve the highest possible level of technical skill in that concentration and its expressive possibilities.

BFA in Studio Arts—Ceramics

The Bachelor of Fine Arts in Studio Arts with a concentration in ceramics offers the basic techniques of clay forming (hand-building, casting, and throwing), the use of slips and glazes, and firing processes such as stoneware, low-fire, and raku, with an emphasis on experimentation with the medium to investigate individual interests.

Requirements: A minimum total of 126 semester hours is required for a ceramics major with 81 credits distributed as listed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum</td>
<td>21</td>
</tr>
<tr>
<td>Art F. 136 Design I</td>
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<tr>
<td>Art F. 137 Design II</td>
<td></td>
</tr>
</tbody>
</table>


Art history:...

Art H. 124, Survey of Western Art: Modern, 300+ Art History

Introductory Art:...

Art S. 250 Oil and Alkyd Painting or Art S. 251 Watercolor and Acrylic Painting, Art S. 280 Sculpture, Art S. 340 Life Drawing Studio*, Art S. 340 or Art S. 345 Intermediate Drawing, Art S. 364 Printmaking III, Art S. 545 Advanced Drawing*

Fine arts electives:...

Courses which complement the Introductory art courses and the ceramics concentration

Ceramics Concentration:...


Note: 40+ upper-division hours are required for graduation.

Lower-Division Courses

270. Basic 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.

272. Handbuilding with Clay. (5). Uses various handbuilding techniques in the context of the vessels, the figure and architecture of wall reliefs. Emphasizes the creative use of clay to make a personal statement. Explores various surface treatments and firing techniques. Emphasizes issues of content and one's ideas. Required for upper level courses. Prerequisites: Art F. 189 and Art S. 270, or departmental consent for nonmajors.

275. Study of Ceramic Materials I. (3). Lab fee. Lectures and research covering clays, glazes and refractory materials. Reading assignments concerning physical and chemical characteristics of pottery materials. Prerequisites: Art F. 189 and Art S. 270, or departmental consent for nonmajors.

Upper-Division Courses

370. Intermediate Ceramics Studio. (3). Explores students to new possibilities in throwing or handbuilding. Student's resources. Problems of teapots, two-foot vases and platters; hand-builders pursue a personal direction. Both have a required slip casting assignment. Emphasizes striving to make a personal statement in clay. Also an exchange of ideas to help facilitate one's personal statement. Designed to be taken twice and is repeatable for credit. Prerequisites: completion of foundation program and Art S. 270.

procedures relate to the various handbuilding techniques. Activities include lectures, demonstrations, and research related to historical as well as contemporary studies of clay vessels and sculptural forms. Prerequisite: Art S. 272 or 280.

374. Kiln Methods. (3). The study of kiln design and construction with research in the area of refractory materials. Includes reading assignments, notebook and laboratory research. Prerequisites: completion of foundation program and Art S. 370.

Courses for Graduate/Undergraduate Credit

570. Advanced Ceramics Studio. (3). Lab fee. Advanced studio problems involving forming methods, glaze formulation and firing procedures. Lecture periods involve advanced studies of ceramic materials and glaze formulation. Repeatable for credit. Prerequisites: Art S. 370 and instructor's consent.


574. Advanced Study of Kiln Methods. (3). Advanced study of kiln design and construction with research in the area of refractory materials. Requires reading assignments, notebook and laboratory work. Prerequisite: Art S. 374.

575. Study of Ceramic Materials II. (3). Lab fee. Lectures and research covering clays, glazes and refractory materials. Reading assignments concerning physical and chemical characteristics of pottery materials. Prerequisites: Art S. 275 and 370.

576. Study of Ceramic Glazes II. (3). Lab fee. Lecture course on glaze formulation and the use of oxide and crystalline effects of oxides on base glazes. Requires notebook, formulation records and laboratory work. Prerequisite: Art S. 375.

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 instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent.

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Explores areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit.

870. Special Problems in Ceramics. (1-5). Research in advanced problems in ceramics. Repeatable for credit.

875. Advanced Research of Ceramic Materials. (3). Lectures and advanced research covering clays, glazes and refractory materials. Reading assignments concerning physical and chemical characteristics of pottery materials. Requires notebook and outside lab work.

876. Advanced Study of Ceramic Glazes. (3). The study of glaze formulation and the color of crystalline effects of oxides on base glazes. Requires notebook, advanced formulation records and laboratory work. Prerequisite: Art S. 875.

878-879. Terminal Project—Ceramics. (2, 3 or 5; 3 or 5).

BFA in Studio Arts—Painting/Drawing
The Bachelor of Fine Arts in Studio Arts with a concentration in painting/drawing offers intensive studio work organized within a pattern of courses designed to promote the development of concepts and their realization in vital material form. This approach requires a foundation in the fundamental aspects of painting media, as well as an understanding of the historical and social context in which painting is encountered.

Requirements: A minimum total of 126 semester hours is required for a painting/drawing major with 81 credits distributed as listed below.

Area Hrs. Code Curriculum


Art History

Art History

Area Survey of Western Art

Modern, 300+ Art History

Introductory Art

Art S. 250 Oil and Alkyd Painting, Art S. 251 Watercolor and Acrylic Painting, Art S. 260 Printmaking, Art S. 270 Basic Ceramics Studio or Art S. 272 Handbuilding, Art S. 280 Sculpture, Art S. 340 Life Drawing Studio*, Art S. 364 Printmaking III

Fine arts electives

9 Courses which compliment the Introductory art courses and the painting/drawing concentration

Painting/Drawing Concentration

Art S. 345 Intermediate Drawing, Art S. 354 Painting Studio*, Art S. 545 Advanced Painting*, Art S. Advanced Painting* * repeatable courses

Note: 40+ upper-division hours are required for graduation.

Drawing Courses
Drawing is the integral 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.

Upper-Division Courses

340. Life Drawing Studio. (3). Lab fee. Emphasizes individual development, figurative observation and interpretation. Repeatable for credit. Prerequisite: completion of foundation program.

345. Intermediate Drawing. (3). Drawing projects, figurative or nonfigurative. Includes problems of style, suites of related works and history of drawing techniques, and materials. Prerequisite: completion of foundation program.

Courses for Graduate/Undergraduate Credit

545. Advanced Drawing Studio. (1-3). Drawing with a variety of media. Uses graphic problems relative to individual technical and aesthetic development. Critiques are given. Repeatable for credit. Prerequisites: Art S. 340 and 345.

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 instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisites: Art S. 340, 345 and instructor's consent.

Courses for Graduate Students Only

840. Special Problems in Life Drawing. (1 or 3). Drawing from life. Requires sketchbooks and/or portfolio. Repeatable for credit.

845. Special Problems in Drawing. (1-3). Advanced drawing in various media emphasizing independent work and the development of personal expression. Repeatable for credit.

Painting Courses

Lower-Division Courses

250. Oil and Alkyd Painting. (3). An introduction to oil and alkyd painting emphasizing studio practices, fundamental principles, and techniques. Prerequisites: Art F. 136, 137, 145, or departmental consent for nonmajors.

251. Watercolor and Acrylic Painting. (3). An introduction to transparent watercolor, opaque watercolor, and acrylic painting emphasizing studio practices, fundamental principles, and techniques. Prerequisites: Art F. 136, 137, 145, or departmental consent for nonmajors.

Upper-Division Courses

354. Painting Studio. (3). Emphasizes individual development, personal interpretation, and creativity. Repeatable for credit. Prerequisites: completion of foundation program and Art S. 250 and 251 or departmental consent.

Courses for Graduate/Undergraduate Credit

551. Advanced Watercolor Studio. (3). Requires sketchbooks and/or portfolio. Prerequisites: completion of foundation program and Art S. 251.

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 instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent.

554. Advanced Painting Studio. (1-3-5). For the professionally oriented student. Emphasizes independent study. Repeatable for credit. Prerequisite: four semesters of Art S. 354 and interview with instructor.

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Explores areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit.

850. Special Problems in Painting. (1-5). Professional and experimental painting emphasizing 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.

858-859. Terminal Project—Painting. (3 or 5; 3 or 5).

BFA in Studio Arts—Printmaking

The Bachelor of Fine Arts in Studio Arts with a concentration in printmaking offers a broad range of studio experiences in two primary printmaking disciplines, intaglio and lithography. Suplementing these areas are relief, screen printing, collagraph, and papermaking. The program provides a wide exposure to traditional and contemporary techniques.

Requirements: A minimum total of 126 semester hours is required for a printmaking major with 81 credits distributed as listed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum</td>
<td>21</td>
</tr>
<tr>
<td>Art H. 124, Survey of Western Art: Modern, 300+ Art History</td>
<td>6</td>
</tr>
<tr>
<td>Introductory Art</td>
<td>21</td>
</tr>
<tr>
<td>Art S. 250 Oil and Alkyd Painting, Art S. 260 Printmaking, Art S. 270 Basic Ceramics Studio or Art S. 272 Handbuilding, Art S. 280 Sculpture, Art S. 340 Life Drawing Studio, Art S. 340 or Art S. 345 Intermediate Drawing, Art S. 354 Painting</td>
<td></td>
</tr>
<tr>
<td>Fine arts electives</td>
<td>9</td>
</tr>
<tr>
<td>Courses which complement the Introductory art courses and the printmaking concentration</td>
<td></td>
</tr>
</tbody>
</table>

Printmaking Concentration | 24 |

* repeatable courses

Note: 40+ upper-division hours are required for graduation.

Courses for Graduate Students Only

860. Special Problems in Printmaking—Intaglio. (1, 3 or 5). Advanced printmaking on an individual basis. Gives encouragement to investigation, combined with a craftsman-like approach. Techniques include all intaglio, relief and combined methods, black and white and color. Repeatable for credit.

862 & 863. Special Problems in Printmaking—Lithography. (1, 3, 5 or 3 or 5). Advanced printmaking on an individual basis. Gives encouragement to investigation, combined with a craftsman-like approach. Includes lithography and allied techniques, black and white and color. Repeatable for credit.

868-869. Terminal Project—Printmaking. (3 or 5; 3 or 5).

BFA in Studio Arts—Sculpture

The Bachelor of Fine Arts in Studio Arts with a concentration in sculpture offers a varied and rich learning experience in three-dimensional media. The sculpture studios in Henrion Annex, where clay figure modeling, steel fabricating, wood and stone carving, and bronze or aluminum casting take place continually, exposes the student to the diverse sculpture-making processes and how they relate to other artists' concepts.

Requirements: A minimum total of 126 semester hours is required for a sculpture major with 81 credits distributed as listed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Curriculum</td>
<td>21</td>
</tr>
<tr>
<td>Art H. 124, Survey of Western Art: Modern, 300+ Art History</td>
<td>6</td>
</tr>
<tr>
<td>Introductory Art</td>
<td>21</td>
</tr>
<tr>
<td>Art S. 250 Oil and Alkyd Painting, Art S. 260 Printmaking, Art S. 270 Basic Ceramics Studio or Art S. 272 Handbuilding, Art S. 280 Sculpture, Art S. 340 Life Drawing Studio*, Art S. 340 or Art S. 345 Intermediate Drawing, Art S. 354 Painting</td>
<td></td>
</tr>
<tr>
<td>Fine arts electives</td>
<td>9</td>
</tr>
<tr>
<td>Courses which complement the Introductory art courses and the sculpture concentration</td>
<td></td>
</tr>
<tr>
<td>Sculpture Concentration</td>
<td>24</td>
</tr>
</tbody>
</table>

* repeatable courses

Note: 40+ upper-division hours are required for graduation.
Lower-Division Course


Upper-Division Courses

380. Sculpture Studio. (1-3). Special emphasis on the major approaches to sculpture. Stresses the form, concept and construction of sculpture. Includes carving techniques in wood, stone and/or plastic. Construction and assemblage techniques selected from wood, plastic, metal (welded, brazed, riveted, etc.) and/or combined materials. Repeatable once for credit. Prerequisite: completion of foundation program and Art S. 280.

381. Cast Sculpture Studio. (3). Casting techniques for bronze and aluminum sculpture. Uses plaster investment, CO₂ set sand, foam vacuumization and vitrified shell molds to develop individual and unique approaches to cast sculpture. Prerequisite: completion of foundation program and Art S. 280.

Courses for Graduate/Undergraduate Credit

580. Advanced Sculpture Studio. (1-3). Sculpture in any medium, emphasizing individual development and creativity. Repeatable for credit. Prerequisite: Art S. 380.

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 instructor's consent. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent.

Courses for Graduate Students Only

880. Special Problems in Sculpture. (3 or 5). Advanced sculpture emphasizing experimentation and high quality work on an individual basis. Stresses special projects in casting architectural sculpture, mixed media or new materials and techniques. Repeatable for credit.

888-889. Terminal Project—Sculpture. (3 or 5; 3 or 5).

Art Education

The art education area offers the Bachelor of Art Education degree for students interested in an art education teaching career. The goal of the program is to develop a highly competent art teacher who is intellectually informed, skilled in studio performance, and able to communicate with and motivate students. All art education majors are required to specialize in either studio arts, design, or art history as an emphasis area. Students observe teaching techniques, teach in public schools, and attend seminars in education and art education topics.

Bachelor of Art Education

The Bachelor of Art Education has the same Foundation and art history requirements as the BFA in studio arts. This degree serves the student who plans to teach art on the elementary, middle, or secondary level. Its studio component emphasizes a breadth of studio art experience.

Requirements: A minimum total of 143 semester hours is required for an art education major with 70 art credits and 31 education credits distributed as listed below.

Area

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Art History</td>
<td>Art H. 124, Survey of Western Art: Modern, 300+ Art History</td>
</tr>
<tr>
<td></td>
<td>Introductory Art</td>
<td>Art S. 270 Basic Ceramics Studio or Art S. 272 Handbuilding</td>
</tr>
<tr>
<td></td>
<td>Art S. 302 Jewelry, Art E. 313 Fiber Exploration, plus one of the following: Art S. 250 Oil and Alkyd Painting, Art S. 251 Watercolor and Acrylic Painting, Art S. 260 Printmaking, Art G. 330 Photography</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Art Specialization</td>
<td>Three courses from one of the following media: ceramics, painting/drawing, printmaking/sculpture, design—graphic, illustration, 3-D, multi-media, or art history</td>
</tr>
</tbody>
</table>

Professional Education Requirements...32 Specific courses in block sequences include Art E. 517 Student Teaching Seminar.

Note: 40+ upper-division hours are required for graduation.

Student Teaching

Admission into the student teaching year 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 College Algebra; a grade of C or better in English Composition (Engl. 101 and 102 or its equivalent); a grade of C or better in oral communication; completion of curriculum and instruction 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 midsemester of the spring semester prior to the student teaching year. A grade of C or better in student teaching is necessary to receive a recommendation for a teaching certificate.

Graduates of the program applying for teacher certification in Kansas are required to complete the National Teachers Examination as established by the Kansas State Department of Education in order to qualify for their initial certificate. Review of course content will be required for transfer of art education credits from other institutions.

Lower-Division Courses

115. Human Experience and the Arts. (3). Telecourse. Surveys sculpture, architecture, film, drama, music, literature and painting. Examines each art form from four perspectives: historical context, elements of the art form, meaning and evaluation. Course contains 30 half-hour video programs which are coordinated and integrated with the text and study guide. Requires attendance at periodic Saturday sessions.

150. Art Workshop. (1-3). Repeatable for credit. Area covered is determined at the time course is offered.

220. Art and the Child. (1-3). Study of the developmental stages of children's art-making. K-5: the relationship between art and cognitive growth, the role of the teacher, the significance of sensory experience, and aesthetic behavior. Emphasizes the potential for creative behavior as a natural means of a child to respond to environmental stimuli.

281. Cooperative Education. (1-8). Allows students to participate in the cooperative education program. Offered Cr/NCr only.

Upper-Division Courses

302. Jewelry Design/Construction. (3). Emphasizes metal working processes (forging, forming, casting, sawing, cutting, fusing, soldering) with subordinate emphasis on soft jewelry and ceramic processes applicable to jewelry.

310. Art Education in the Elementary School. (3). A study of philosophy, psychology and sensory growth of the elementary-age student, emphasizing the content, objectives, methods and evaluation of the elementary school art program. Students teach in the Children's Art Workshop. Prerequisite: art education major, upper-division eligibility.
311. Art Education Curriculum in the Elementary School. (1-3). A study of developmental characteristics of the elementary-age student and the development of the art program with respect to materials, skills and knowledge content.

313. Fiber Exploration. (3). Focuses on fiber experiences appropriate for the classroom on the intermediate or secondary level. Weaving, braiding, and twisting techniques that result in a fabric or web are explored on various kinds of looms. Simple dye techniques are explored.

350. Art Workshop. (1-3). Repeatable for credit. Area covered is determined at the time the course is offered.

410. Art Education in the Middle School/Junior High School. (1-3). A study of the philosophy, psychology and artistic development of the middle school/junior high school student, emphasizing the content, objectives, methods and evaluation of the middle school/junior high school art program. Students participate in a field experience in a middle school/junior high school. Students enroll in this course or 516 during the Fall semester preceding Spring semester student teaching. Prerequisite: Art E. 310 or equivalent.

413. Independent Study. (1-4). Directed independent study in art education not normally covered in other course work. Prerequisite: instructor’s consent.

414. Art Education in the Senior High School. (1-3). A study of the curricular and instructional uses of the micro-computer to art education. Students learn a variety of procedures for generating computer art images for instruction and self-expression and use a variety of micro-computer software and hardware. Students apply the micro-computer to art curriculum and instruction. Prerequisite: Art E. 310 or equivalent.

419. Micro-Computer Applications to Art Education. (1-3). A study of the curricular and instructional uses of the micro-computer to art education. Students learn a variety of procedures for generating computer art images for instruction and self-expression and use a variety of micro-computer software and hardware. Students apply the micro-computer to art curriculum and instruction. Prerequisite: Art E. 310 or equivalent.

481. Cooperative Education. (1-8). Allows students to participate in the cooperative education program. Offered Cr/NC only.

Courses for Graduate/Undergraduate Credit

510Q. Stimulating Creative Behavior. (3). Division A course/elective. Includes theories of creativity; strategies for problem-finding and problem-solving; identifying various external and internal blocks to creativity; testing for creativity; the relationships of creativity, cognition and visual thinking; creative challenges and stimuli. Emphasizes methods to elicit creative behavior. Repeatable once for credit.

514Q. Aesthetic Inquiry. (3). Division A course/elective. Focuses on contemporary trends in aesthetics relative to the visual arts. Students write critical observations and interpretations in response to art work. Prerequisite: upper-division art major.

515. Developing Visual Materials for Art Education. (3). A production laboratory that emphasizes the integration and selection of appropriate visual media for art instruction. Prerequisite: Art E. 310 or equivalent.

516. Art Education Practicum. (3). The development of art curriculum materials for secondary levels. Students enroll in this course the semester before student teaching. Prerequisite: concurrent enrollment in CESP 433.

517. Student Teaching Seminar in Art. (1). Analyzes problems encountered in the art classroom during student teaching. Requires concurrent enrollment in eight hours of student teaching courses. Prerequisites: Art E. 516 and departmental approval for student teaching.

518. Art for the Exceptional Child. (3). A study of the philosophy, psychology and artistic development of the gifted and handicapped student, emphasizing appropriate adaptations and teaching methods for exceptional children in school settings. Prerequisite: Art E. 310 or equivalent.

550. Art Workshop. (1-3). Repeatable for credit. Area covered is determined at the time the course is offered.

702. Metal Processes for Jewelry Construction. (3). Emphasizes fabrication techniques, design analysis and function of jewelry designed and produced by students and acknowledged craftsmen. Repeatable once for credit. Prerequisite: Art E. 212, 302 or instructor’s consent.

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 identifies an area for individual investigation. Repeatable once for credit.

711. Seminar in Art Education: Topic to be Announced. (1-3). Supervised study and research of contemporary issues in art education. Repeatable for credit with adviser’s consent. Prerequisite: instructor’s consent.

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.

713. Fiber and Fabric Processes. (2-3). Fiber processes using traditional and experimental techniques. Students may take one or more of other structured techniques using natural and man-made fibers. Repeatable once for credit. Prerequisite: instructor’s consent.

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.

719. Electronic Imaging. (1-3). Emphasizes computer processes and their application to art and art education. Students generate computer images using digitizing, scanning, and animation with a variety of software and hardware. Makes application of this new technology to problems of design, art history, and art criticism. Develop curriculum materials for art instruction employing computer graphic instruction. The graduate student prepares a research paper on a selected topic related to computer graphics and art learning.

720. 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.

750. Art Workshop. (1-3). Repeatable for credit. Area to be covered is determined at the time the course is offered.

Courses for Graduate Students Only

815. Individual Research Problems in Art Education. (1-4). Directed independent study in art education not normally covered in other graduate course work. Repeatable for credit. Prerequisite: instructor’s consent.

816-817. Thesis—Art Education. (1-3; 1-3).

818-819. Terminal Project—Art Education. (1-3; 1-3).

School of Music

Harold Popp, Chair

The School of Music, which includes program areas of music education, musicology/composition, keyboard, strings, voice and winds/percussion, offers courses and curricula designed to train and educate students who are planning careers in music. In addition, the school's offerings allow students to gain an understanding of music as a humanitarian study. Recitals by students, faculty and guests are augmented by the overall community programs in the fine arts.

Students in the School of Music enjoy the use of extensive facilities in the Duken Fine Arts Center and Wiedemann Hall; these include the Lewis and Selma Miller Concert Hall and the recital/concert auditorium in Wiedemann Hall, which was constructed in 1986 to house 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 demon-
strate 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 piano may pass the requirement by special examination. 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 institution are exempted from this requirement.

All proficiency examinations must be passed before a student is allowed to student teach.

Applied Music
Individual instruction is given in instruments and voice to develop musicianship, performance skills and reading knowledge of music literature. Specific requirements for each level are set by the individual applied areas.

Applied students other than music majors must enroll in the appropriate nonmajor category (see Schedule of Courses). This will provide a 30-minute lesson per week.

One-credit hour enrollments are provided to music majors studying secondary instruments. These receive a 30-minute lesson each week and require a minimum of five hours of practice per week.

Two-credit hour enrollments are provided to majors and special music students. These receive either (1) a 30-minute private lesson (minimum) each week and a one-hour master class each week or (2) a one-hour lesson per week or other equivalent arrangements at the option of the instructor. Students are required to practice a minimum of ten hours each week.

Four-credit hour enrollments are provided to performance majors (juniors and above) and special music students. These receive two 30-minute lessons each week (minimum) and a one-hour master class each week or other equivalent arrangements at the option of the instructor. Students are required to practice a minimum of 20 hours per week.

Students receive academic credit for applied music instruction only when they are taught on the University campus 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, Mus. A. 112 (nonmajors), 231 and 232; juniors and seniors, Mus. A. 112 (nonmajors), 431, 432 and 434*; and graduate students, Mus. A. 712 (nonmajors), 731, 732 and 734*. These applied music courses are repeatable for credit.

Prior to graduation all music majors must achieve an acceptable level 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.

*Performance majors or designated students only may enroll in 434 or 734.

Recitals
All music majors are required to enroll in four semesters of Mus. P. 050, Recital, and attend a minimum of 14 specified recitals and concerts sponsored by the School of Music each of the semesters. For majors other than BA, performance of the senior recital fulfills a fifth semester recital requirement; they must be enrolled in Recital during that semester (Mus. 400 for BME and BM majors; Mus. 450 or 451 for accompanying majors). Senior recital is not required for the BA in music.

All music majors are required to declare a chief performance medium. BM and BME majors are required to present a public or jury recital 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, or (3) the advisability of performing the senior recital before a faculty jury in lieu of a public recital.

Further recital specifications are found under graduation requirements for Bachelor of Music in Theory-Composition.

No music major may prepare or perform the senior 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, music majors must continue to enroll (2 credit hour minimum) in their major instrument through the preparation for and the performance of the recital. The required number of credit hours must be earned in applied instruction even though there may be credits to complete after the senior recital has been performed.

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 degree emphases in the School of Music.

BM in Theory-Composition
Area
Applied Music..............................20
Chief performing medium (piano, organ)..............16
Other performing media..................4
or Chief performing medium
(nonkeyboard)..............................8
Keyboard performing medium...........8
Other performing media.................4
Theory and Composition.............40
Mus. C. 127Q-129, 128-130, 227-229, 228-230, 259-260, 523, 559, 560, 561, 564, 659, 660, 661, 671 and 672
History and Literature of Music......12
Mus. C. 113Q, 334Q, 335Q and three hours of upper-division electives
in music history or literature
Conducting..................................4
Mus. P. 217 or 218, 651 or 691
Ensembles*..............................10
 Electives (music or nonmusic courses)...7
Recital attendance (four semesters
of Mus. P. 050)..........................4
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 or compositions must be submitted in a minimum of two copies done manually in ink or by laser printing using an approved music typesetting computer program. These copies must represent a high quality of manuscript technique or music typesetting. In addition, students may elect to present a second recital in their chief performing medium with the permission of their applied music instructor and achievement of junior proficiency in that instrument.

**BM in Performance—Instrumental Emphasis**

**Area**  
**Hrs.**  
**Applied Music**  
Chief performing medium .......... 28  
Second performing medium  
(four semesters) .................... 4  
Theory .............................................. 22  
Mus. C. 127Q-129, 128-130, 227-229,  
228-230, 523, 561 or 661 and 641,  
645, 643 or 345  
History and Literature of Music ...... 12  
Must include Mus. C. 113Q, 334Q,  
and 335Q  
Conducting  
Mus. P. 217 or 218 and 651 or 691  
Ensembles  
Electives ........................................... 14  
Pedagogy (Mus. P. 620 for violin/viola;  
Mus. P. 680 for woodwind;  
Mus. P. 681 for brass; Mus. P. 682 for  
percussion; Mus. P. 790 for all  
other instrumental BM majors) .... 2  
Senior Recital (Mus. P. 400) ........ 1  
Recital attendance (specified number  
of recitals per semester  
for four semesters, Mus. P. 050) ....

See degree checksheet for specified ensembles.

**BM in Performance—Keyboard Emphasis**

**Area**  
**Hrs.**  
**All Programs**  
**Applied Music**  
Chief performing medium  
(see specific major below)  
Second performing medium .......... 4  
Theory .............................................. 22  
Mus. C. 127Q-129, 128-130, 227-229,  
228-230, 523, 561 or 661, 345 or 641  
History and Literature of Music ...... 9  
Mus. C. 113Q, 334Q and 335Q  
Conducting ........................................ 4  
Mus. P. 217 or 218 and 651 or 691  
Ensembles (see specific major below)  
Recital Attendance  
Mus. P. 050 (enrollment for four  
semesters in a specified number  
of recitals)

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**Specific Keyboard Program Requirements**

**Piano Performance Emphasis**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Piano</td>
<td>24</td>
</tr>
<tr>
<td>Mus. P. 250 and 251, Applied Concerto</td>
<td>4</td>
</tr>
<tr>
<td>Mus. P. 107-407, Piano Repertoire</td>
<td>6</td>
</tr>
<tr>
<td>Mus. P. 580, Piano Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>Mus. C. 782 and 783, Piano Literature</td>
<td>4</td>
</tr>
</tbody>
</table>

Ensembles (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.)

Mus. P. 300, Junior Recital (piano) ..... 1
Mus. P. 400, Senior Recital (piano) ..... 1
Electives ........................................... 2

**Piano Accompanying Emphasis**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Piano</td>
<td>16</td>
</tr>
<tr>
<td>Mus. P. 223, 224, 423, and 424, Applied Piano Accompanying</td>
<td>12</td>
</tr>
<tr>
<td>Mus. P. 121, 122, 221, 222, Ital., Engl., Fren., Germ. Diction</td>
<td>4</td>
</tr>
<tr>
<td>Mus. P. 107-407, Piano Repertoire</td>
<td>4</td>
</tr>
<tr>
<td>Mus. P. 580, Piano Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>Mus. C. 726, Voice Literature</td>
<td>3</td>
</tr>
<tr>
<td>Mus. C. 665, String Literature</td>
<td>2</td>
</tr>
</tbody>
</table>

Ensembles (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.)

Mus. P. 300, Junior Recital (piano) ..... 1
Mus. P. 450 and 451, Senior Accompanying Recital ..... 2
Electives ........................................... 16

**Piano Pedagogy Emphasis**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Piano</td>
<td>24</td>
</tr>
<tr>
<td>Mus. P. 107-407, Piano Repertoire</td>
<td>6</td>
</tr>
<tr>
<td>Mus. P. 580, Piano Pedagogy</td>
<td>2</td>
</tr>
<tr>
<td>Mus. P. 381, Piano Teaching Materials</td>
<td>2</td>
</tr>
<tr>
<td>Mus. C. 782 and 783, Piano Literature</td>
<td>4</td>
</tr>
<tr>
<td>Mus. P. 790, Special Topics (designated)</td>
<td>4</td>
</tr>
</tbody>
</table>

Ensembles (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.)

Mus. P. 400, Senior Recital (piano) ..... 1
Elective ............................................ 1

**Organ Emphasis**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Organ</td>
<td>24</td>
</tr>
<tr>
<td>Mus. C. 597 and 589, Organ Literature and Practice</td>
<td>2</td>
</tr>
<tr>
<td>Ensembles</td>
<td>10</td>
</tr>
</tbody>
</table>

(keyboard scholarship recipients are required to enroll in accompanying each semester they hold a scholarship.)

Mus. P. 400, Senior Recital (organ) ..... 1
Electives ........................................... 15

**BM in Performance—Vocal Emphasis**

**Area**  
**Hrs.**  
**Applied Music**  
Chief performing medium .......... 26  
Second performing medium  
(see specific major below)  
Theory .............................................. 18  
Mus. C. 127Q-129, 128-130, 227-229,  
228-230 and 523 or 661  
History and Literature of Music ...... 9  
Mus. C. 113Q, 334Q and 335Q  
Conducting ....................................... 4  
Mus. P. 218  
Voice Pedagogy and Repertoire ....... 9  
Mus. P. 121, 122, 221, 222, 625,  
and Mus. C. 726  
Ensembles (see degree sheets for  
specified ensembles) ............... ..... 10  
Electives (in upper-division theory,  
conducting or choral literature) .... 10  
Senior Recital (Mus. P. 400) ........ 1  
Recital attendance (specified number of  
recitals per semester for four  
semesters, Mus. P. 050)  
Foreign languages (5 hours in each  
language or 10 hours in one of two  
languages)  
Fren. 111-112, Germ. 111-112

**BM with Elective Studies in Business**

**Area**  
**Hrs.**  
**Applied Music**  
Chief performing medium .......... 16  
Second performing medium  
(four semesters) ................. 4  
Theory .............................................. 20  
Mus. C. 127Q-129, 128-130, 227-229,  
228-230, 561 or 661, 641 or 753 or 345  
History and Literature of Music ...... 9  
Mus. C. 113Q, 334Q, and 335Q  
Conducting ....................................... 4  
Mus. P. 217 or 218 and 651 or 691  
Ensembles (see degree sheets  
for specified ensembles) .......... 8 or 10  
Electives ........................................... 3-5  
Vocal majors require Mus. P. 121, 221,  
222. Piano majors require Mus. P. 580  
Senior Recital (Mus. P. 400) ........ 1  
Recital attendance (specified number of  
recitals per semester for four  
semesters, Mus. P. 050)  
Business Requirements .................. 30  
Econ. 201Q, 202Q (6); Acct. 210, 220 (6);  
and any three of the following four  
courses: Mgmt. 360 Q; Fin. 340 (3);  
Mkt. 300 (3); DS 350 (3). Also 9 hours  
of upper-division electives.
BM with Elective Studies in Theatre

Area  Hrs.
Applied Music ........................................... 20
Chief performing medium ...................... 16
Second performing medium (four semesters) ......... 4
Theory .................................................. 20
Mus. C. 127Q-129, 128-130, 227-229,
228-230, 561 or 661, 641 or 753 or 345
History and Literature of Music ............... 9
Mus. C. 113Q, 334Q and 335Q
Conducting ............................................. 4
Mus. P. 217 or 218 and 651 or 691
Ensembles (see degree sheets for specified ensembles) .... 8 or 10
Electives .................................................. 3-5
Vocal majors require Mus. P. 121, 221,
222, Piano majors require Mus. P. 580
Senior Recital (Mus. P. 400) ..................... 1
Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050)
Journalism Requirements ....................... 24
Comm. 115Q (3); 200 (3); 325 (3); 350 (3);
502 or 525 (3); 550 (3); 650 (3); 690 (3).

BM with Elective Studies in Journalism
(News Editorial Emphasis)

Area  Hrs.
Applied Music ........................................... 20
Chief performing medium ...................... 16
Second performing medium (four semesters) ......... 4
Theory .................................................. 20
Mus. C. 127Q-129, 128-130, 227-229,
228-230, 561 or 661, 641 or 753 or 345
History and Literature of Music ............... 9
Mus. C. 113Q, 334Q, and 335Q
Conducting ............................................. 4
Mus. P. 217 or 218 and 651 or 691
Ensembles (see degree sheets for specified ensembles) .... 8 or 10
Electives .................................................. 6-8
Vocal majors require Mus. P. 121, 221,
222, Piano majors require Mus. P. 580
Senior Recital (Mus. P. 400) ..................... 1
Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050)
Journalism Requirements ....................... 21
Comm. 130 (3); 230 (3); 300 (3); 322 (3);
332 (3); 630 (3); 690 (3).

BM with Elective Studies in Journalism
(Broadcasting Emphasis)

Area  Hrs.
Applied Music ........................................... 20
Chief performing medium ...................... 16
Second performing medium (four semesters) ......... 4
Theory .................................................. 20
Mus. C. 127Q-129, 128-130, 227-229,
228-230, 561 or 661, 641 or 753 or 345
History and Literature of Music ............... 9
Mus. C. 113Q, 334Q, and 335Q
Conducting ............................................. 4
Mus. P. 217 or 218 and 651 or 691
Ensembles (see degree sheets for specified ensembles) .... 8 or 10
Electives .................................................. 6-8
Vocal majors require Mus. P. 121, 221,
222, Piano majors require Mus. P. 580
Senior Recital (Mus. P. 400) ..................... 1
Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050)
Journalism Requirements ....................... 21
Comm. 130 (3); 230 (3); 300 (3); 322 (3);
332 (3); 630 (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 three options within this 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

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 (Engl. 101 or its equivalent and Engl. 102). Comm. 111, and College Algebra; 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 in 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.

Professional Education Requirements

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<td>CI 469*</td>
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*These courses are taken during the student teaching semester.
Additional Courses Required for Instrumental Emphasis

Area Hrs.
Applied Music ............................................ 16
Instrumental majors (chief medium) ............... 14
(piano) .................................................. 2
Keyboard majors (chief medium) ................. 14
(second instrument) .................................... 2
Electric bass majors (electric bass) ................. 10
(string bass) ........................................... 4
(piano) .................................................. 2
Students must be enrolled in applied music during the semester of their senior recital.

General Music ............................................ 24-26
Mus. C. 127Q-129, 128-130, 227-229, 228-230, 523, 641 or 753 or 754,
Mus. P. 217 or 218, 651 or 691.

Ensembles ................................................. 7
(see degree sheets for specified ensembles)
Recital attendance (four semesters of
Mus. P. 050) plus .... Senior Recital, 
Mus. P. 400)

Music Education ........................................ 18
Mus. E. 204, 304, 404* and 611 ................. 10
Mus. E. 235, 236, 237, 238, 239, 240, 1 hour voice, and 342. .... 8

Additional Courses Required for Vocal (Keyboard) Emphasis

Area Hrs.
Applied Music ............................................ 16
Vocal majors (voice) .................................... 14
(piano) .................................................. 2
Keyboard majors (piano) .......................... 14
(1 hour voice and Mus. E. 342) .......... 2
Students must be enrolled in applied music during the semester of their senior recital.

General Music ............................................ 25
Mus. C. 127Q-129, 128-130, 227-229, 228-230, 523, 641 or 753 or 754,
Mus. P. 217 or 218, 651 or 691; 1 hr.
Of music electives for vocal majors;
for piano majors, Mus. P. 580 or 581,
and 307 and 407 required

Ensembles ................................................. 7 or 9
Vocal (9), harp, organ, guitar,
electric bass majors, piano majors .... 7
(see degree sheets for specified ensembles)
Recital attendance (four semesters of
Mus. P. 050 plus Senior Recital, 
Mus. P. 400)

Music Education ........................................ 18
Mus. E. 204, 304, 404* and 611 ................. 10
Mus. E. 235, 236, 237, 238, 239, 240, 1 hour voice, and 342. .... 8

Bachelor of Arts in Music

Students who wish a Bachelor of Arts in
music are required to complete courses in
Fairmount College of Liberal Arts and the
College of Fine Arts as indicated in the
music degree checklists and to elect 50
music hours as specified in the following
areas and course listings.

Area Hrs.
Group I
Music Literature and History .................... 9
Mus. C. 113Q and six hours in
additional music, history, and
literature courses such as Mus. C.
334Q-335Q, 346Q, 624, 726, 753-754.
May not use course counted in
General Education requirement.

Group II
Music Theory ........................................... 20
Mus. C. 127Q-129, 128-130, 227-229, 228, 523, 561 or 661, 641

Additional Courses Required for Special Music Education
Emphasis (Vocal or Instrumental)

Music Requirements

Area Hrs.
Applied music ............................................ 16
Vocal majors (voice) .................................... 14
(piano) .................................................. 2
Keyboard and instrumental majors (piano) .......... 14
(Guitar recommended
Students must be enrolled in applied
music during the semester of their
senior recital.

General Music ............................................ 24
Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641 or 753 or 754,
Mus. P. 217 or 218, 651 or 691.
Required for piano majors, Mus. P.
580 or 581 and Mus. P. 307 and 407.

Ensembles ................................................. 7 or 9
Vocal majors .......................................... 9
Instrumental and piano majors .............. 7
(see degree sheets for specified ensembles)
Recital attendance (four semesters plus
senior recital, Mus. P. 050)

Education Requirements

Area Hrs.
Recommended: one 600-level CI
exceptionalities course ............. 3
Music Education Methods .................. 16-23
Vocal Emphasis-Mus. E. 203, 303, 309,
403, 241, 242, 342, 611
Instrumental Emphasis-Mus. E. 204,
304, 309, 404, 235, 236, 237, 238, 239,
240, 686, 341 or 1 hour voice, 342, 611
Additional courses for piano
pedagogy majors-Mus. P. 580
(2 hours) and 790 (4 hours)

Music Minor

A minor in music is available to any student
whose major field or area of emphasis
is outside the School of Music. A music minor
consists of 20 hours as indicated:
Mus. C 113Q; Mus. C 127Q, 128, 129, 130,
and 9 additional hours selected from
among the following: Mus. C 160G, 227,
228, 229, 230, 334Q, 335Q, 523, music
applied (4 hour maximum), and music
ensembles (4 hour maximum).

Music Education

Lower-Division Courses

203. Fundamentals of Vocal Music for Secondary Schools. (3). The teaching of music in
the secondary school, consideration of objectives and examination of materials. Designed
for students primarily interested in teaching music in secondary schools; includes
observation in public schools. Includes classroom guitar. Prerequisite: music education major or
instructor's consent. Grades 6-12.

204. Fundamentals of Instrumental Music for Secondary Schools. (3). Techniques and materials
for teaching instrumental music in junior and senior high schools. Emphasizes instrumental
organization and administration, pedagogical practices, laboratory experiences, guiding
student behavior, evaluation and professional responsibilities. For students primarily
interested in teaching instrumental music in the secondary schools. Includes teaching tech
niques for jazz ensemble. Prerequisite: music education major or instructor's consent. Grades 6-12.

235. Methods of Teaching Orchestral Instruments (Violin and Viola). (1). Procedures and materials
for class and private teaching. Includes performance and fundamentals in first position and theory and reading knowledge of positions two through five. Includes band and orchestra laboratory. Grades 4-12.

236. Methods of Teaching Orchestral Instruments (Cello and String Bass). (1). Procedures and
texts for class and private teaching.
Applies fundamental techniques. Includes knowledge of more difficult positions and special techniques. Includes band and orchestra laboratory. Grades 4-12.

237. Methods of Teaching Band and Orchestral Instruments (Clarinet and Saxophone). (1). Prepares the prospective instrumental music instructor to effectively teach clarinet and saxophone in the public school setting. Includes discussions of teaching techniques, identification of problems peculiar to each instrument, care and minor repair, instructional materials, reed selection and adjustment, instrument brands and the development of sufficient playing skills. Grades 4-12.

238. Methods of Teaching Band and Orchestral Instruments (Flute and Double Reeds). (1). Prepares the prospective instrumental music instructor to effectively teach flute and double reeds in the public school setting. Includes discussions of teaching techniques, identification of problems peculiar to each instrument, care of instrument, instructional materials, instrument brands and the development of sufficient playing skills. Grades 4-12.

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. Grades 4-12.

240. Methods of Teaching Band and Orchestral Instruments (Percussion). (1). Procedures and materials for class and private instruction. Includes application of snare drum fundamentals and a study of basic techniques for all percussion instruments. Grades 4-12.


242. Wind and Percussion Rehearsal Methods. (1). Wind and percussion techniques and materials for grades 4 through 12. Required of majors on choral/keyboard program and choral/keyboard majors on special music education program.

281. Cooperative Education. (1-8). A field placement which integrates course work with a planned area of practical work experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty advisors and cooperative education coordinators. Students 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. Prerequisite: 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.

Upper-Division Courses


304. Survey of Instrumental Elementary School Music. (3). A survey of methods and materials in the elementary school instrumental program of instruction. Stresses the preparation for student teaching of special education students at early childhood elementary and secondary levels in public schools. Includes musical settings (self-contained and mainstreamed) in regular and alternative schools and classes, identification, objectives, appropriate activities, materials and planning and implementation techniques. Also includes the development of sufficient playing skills. Grades 4-12.

309. Survey of Music for Special Education. (3). Consideration of methods and problems in preparation for student teaching of music with special education students at the elementary and secondary levels in public schools. Includes musical settings (self-contained and mainstreamed) in regular and alternative schools and classes, identification, objectives, appropriate activities, materials and planning and implementation techniques. Also includes observation, demonstration-participation experiences and/or media presentations. Prerequisites: Mus. E. 203 or 204 with instructor's consent. Grades K-12.

341. Survey of Singing Techniques and Literature. (1). Vocal problems and strategies 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. Includes a survey of sources for the solo voice. Required for instrumental, keyboard, and special music education majors, or may substitute 1 hour voice. Grades K-12.

342. Survey of Choral Techniques and Literature. (1). A study of basic techniques of ensembles and examination of literature for large and small ensembles. Includes song leading, required for all music education majors. Prerequisites: 1 hour of applied voice or Mus. E. 341 and Mus. P. 217 or 218. Grades 6-12.

351. Music Fundamentals for the Classroom Teacher. (2). For students planning to teach in the elementary school classroom. Includes basic fundamentals of music emphasizing development of student's music ability in singing, playing the piano and classroom instruments.

403. Advanced Techniques of Vocal/General School Music. (1). Emphasizes special problems related to preparation for student teaching—consideration of the vocal and general music programs at all levels. Prerequisites: Mus. E. 203 and 303 (also 309 for special music education majors). Includes content area readings. To be taken during student teaching semester. Grades K-12.

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. Prerequisites: Mus. E. 204 and 304. Includes content area readings. Also 309 for special music education majors. To be taken during student teaching semester. Grades 4-12.


Courses for Graduate/Undergraduate Credit

606. Music Methods for Early Childhood Education. (2). Methods and materials for teaching music in the preschool and kindergarten classroom. Includes the development of the child's musical growth through singing, listening, rhythmic and creative activities; a survey of available materials and development of playing, singing and conducting skills.

611. Music for Special Education. (3). Open to upper-division or graduate students for the potential practicing music teacher, classroom teacher or special education teacher. Includes identification of dysfunctioning and their problems and current theory and practices in special music education. Satisfies the requirement, effective September 1, 1981, that all programs 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. Grades K-12.

686. Marching Band Techniques. (2). A systematic approach to the marching band with regard to organization, show development, instrumentation, music adaptation, drill construction and script development. Teaches both traditional drill and corps style marching utilizing manual methods and computer generated graphics. Field observations, films, photographs and live performances by marching bands complement the class syllabus. Required for all instrumental majors.

732. Music in the Junior High School. (3). Includes administrative structures, the curriculum, adolescent development, teaching as behavior and competencies needed for successful teaching of general and choral music in grades 6-9.

737A. Advanced Woodwind Techniques. (2). Special problems and techniques in the teaching of woodwind instruments. Surveys current materials. Prerequisites: Mus. E. 237 and 238 or equivalent.

739A. Advanced Brass Techniques. (2). Special problems and techniques in the teaching of brass instruments. Surveys current materials. Prerequisite: Mus. E. 239 or equivalent.

740A. Advanced Percussion Techniques. (2). Special problems and techniques in the teaching of percussion instruments. Surveys current materials. Prerequisite: Mus. E. 240 or equivalent.

750. Music Education Workshop. (1-4). Repeatable for credit.
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 program must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Coop 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; 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. Offered CR/NC only.


789. Special Topics in Music. (1-4). For individual or group instruction. Individual study enrollment requires departmental consent. Repeatable with departmental consent.

Courses for Graduate Students Only


822. Advanced Techniques in Special Music Education. (3). For the music education special emphasis MME candidates only. Studies research literature and trends in special music education. Includes an evaluation of materials and techniques and special projects exploring the development of musical understanding in the dysfunctional child. 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. E. 403 or 404.

823. Special Music Education Practicum. (3). For the music special education emphasis MME candidate only. Supervised teaching in special education classrooms. A companion course to Mus. E. 822; gives the music special education emphasis MME candidate experience in teaching in special education classrooms. Prerequisite: Mus. E. 822 or concurrent enrollment.

831. Developing the Child's Musical Understanding. (3). Definition of understandings necessary for the attainment of musical awareness in the child. Directs the exploration of classroom experiences toward the successful development of understanding through the application of basic learning principles. Prerequisite: Mus. E. 403.


841. Special Project in Music. (1-3). Individually supervised study or research emphasizing the student's personal needs. Repeatable for credit. Prerequisite: instructor's consent.

842. Special Project in Music. (1-3). Individually supervised study or research emphasizing the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent.

844. Terminal Conducting Project. (2). Individually supervised project for those electing the conducting option on the instrumental or choral emphasis under the MME degree. Prerequisite: instructor and departmental consent.

851. Psychology of Music. (2). An overview of music behaviors from a psychological perspective. Relates recent literature concerning human psychoacoustics; melodic, rhythmic and harmonic perception; and major learning theories to current trends in music education.

852. Introduction to Bibliography and Research. (3). See course listing under musicology-composition department.

854. Research Seminar in Music Education. (3). Continued application of techniques of research. Requires the completion of a major research project. Prerequisite: Mus. 852.

855. History and Philosophy of Music Education. (2). A study of historical trends and contemporary philosophies relevant to music education. Prerequisite: Mus. E. 851.


857. Thesis. (2).

Applied Music Classes

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.

231. (1). For majors only; study on secondary instruments. Basic instruction. Repeatable for credit. Lower division.

232. (2). For majors only. Repeatable for credit. Lower division.

431. (1). For majors only; study on secondary instruments. Basic instruction. Repeatable for credit. Upper division.

432. (2). For majors only. Repeatable for credit. Upper division.

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.

731. (1). For majors only; study on secondary instruments. Basic instruction. Repeatable for credit. Graduate.

732. (2). For majors only. Repeatable for credit. Graduate.

734. (4). For performance and pedagogy majors or students preparing for master's degree recitals only. Repeatable for credit. Graduate.

Applied Music Abbreviations

A Bassoon
B Cello
C Clarinet
D Euphonium
E Flute
F French Horn
G Guitar
H Harp
I Organ
J Oboe
K Percussion
L Tuba
M Violin
N Violin
O Voice
P Piano
Q Saxophone
R Trombone
S Trumpet
T Trumpet
U Tuba
V Violin
W Violin
X Voice
Y Electric Bass
Z Electric Bass

119. Piano Class. (1). Non-piano music majors. Prerequisite: class placement interview. Repeatable.

120. Piano Class. (2). Piano majors. Repeatable.

717. Violin Class for Adult Beginners. (2). Noncredit Courses

80. 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.

Lower-Division Courses

107-207. Piano Repertoire. (1-1). Give performing and listening experience to piano majors. Repeatable for credit.

121. Italian Diction. (1). For the vocal performer, including a comprehensive study of Italian consonant and vowel sounds.

122. English Diction. (1). For the vocal performer, including a comprehensive study of English consonant and vowel sounds.

148. Double Reed Making and Adjusting. (1). Making and adjusting oboe, English horn and bassoon reeds. Repeatable for credit. Prerequisite: Mus. E 238 or instructor's consent.


210-211-212-213-214. Ensembles. (1-1-1-1-1). (A) Orchestra; (B) Symphonic Band/Wind Ensemble; (C) A Cappella Choir; University Singers; Concert Chorale; (I) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (N) Woodwind Ensemble; (O) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) Beginning String Ensemble and String Chamber Ensemble; (T) Jazz Arts Ensembles I and II; (V) Guitar Ensemble. Prerequisite: Audition required. Repeatable for credit.

217. Instrumental Conducting. (2). Fundamentals of baton technique, elementary score reading and musical leadership. Practical experience in conducting laboratory and classroom groups. Prerequisite: Mus. C 128 and 130.

218. Choral Conducting. (2). Fundamentals of conducting, score reading and rehearsal techniques. Practical experience conducting classroom groups. Prerequisites: Mus. C 128 and 130.

221. German Diction. (1). For the vocal performer, including a comprehensive study of German consonant and vowel sounds.

222. French Diction. (1). For the vocal performer, including a comprehensive study of French consonant and vowel sounds.


250-251. Applied Piano Concerto. (2-2). Designed to give students concerto performance experience. Prerequisites: sophomore standing and admittance to the BM performance program.


Courses for Graduate/Undergraduate Credit

580. Piano Pedagogy. (2). Primarily concerned with the art and science of teaching. Includes observation of master teachers in the University and community.


620. String Pedagogy: Violin and Viola. (2). Required for violin and viola performance majors. A study of tutorial techniques for violin and viola, including the teaching of mini-lessons for instructor and class critique. Prerequisite: violin or viola performance capability or instructor's consent.

625. Voice Pedagogy. (2). Acquaints the voice major with vocal techniques, concepts and materials of private and class instruction.

651. Advanced Conducting and Score Reading. (2). Batton technique, score reading and musicianship. Prerequisite: Mus. P. 217 or 218 or equivalent.

680. Woodwind Pedagogy. (2). A comprehensive study of woodwind instrument techniques, concepts and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on a woodwind instrument or instructor's consent.

681. Brass Pedagogy. (2). A comprehensive study of brass instrument techniques, concepts and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on a brass instrument or instructor's consent.

682. Percussion Pedagogy. (2). A comprehensive study of percussion instrument techniques, concepts and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on percussion instruments or instructor's consent.

691. Advanced Choral Conducting. (2). A comprehensive study of conducting and
rehearsal techniques, analysis and ear training and types of choral composition for the advanced student. Prerequisite: Mus. P. 217 or 218 or equivalent.


710-711-712-713-714. Ensembles. (1-1-1-1-1). (A) Orchestra; (B) Symphonic Band/Wind Ensemble; (C) A Cappella Choir; University Singers; Concert Chorale; (D) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (N) Wind Ensemble; (O) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) Beginning String Ensemble and String Chamber Ensemble; (T) Jazz Ensembles I and II; (V) Guitar Ensemble. Prerequisite: Audition required. Repeatable for credit.

715Y. 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. Repeatable.


760. Group Piano Practicum. (2). Supervised group piano teaching for graduate students. Prerequisites: Mus. P. 580 and 581.


790P. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent.

Courses for Graduate Students Only

841. Special Project in Music. (1-3). Individually supervised study or research emphasizing the personal needs of the student. Repeatable for credit. Prerequisite: Instructor's consent.

842. Special Project in Music. (1-3). Individually supervised study or research emphasizing the personal needs of the student. Repeatable for credit. Prerequisite: Instructor's consent.

843. Piano Pedagogy Seminar. (2). Variable topics, such as (1) advanced techniques in classical piano or private piano (college curriculums); (2) class piano in early childhood; (3) class piano for leisure-age students; (4) class piano in public (or private) schools, extending the advanced preparation of piano pedagogy students as needed. Repeatable for credit. Prerequisite: Instructor's consent.

852. Introduction to Bibliography and Research. (3). See course listing under musicology-composition department.

873. Graduate Recital. (2). Performance of a full recital featuring the chief performing medium. Prerequisite: consent of instructor in applied area.

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 this terminal requirement option also will be required to perform a major piano work, prepared at a satisfactory 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.

Musicology-Composition

Lower-Division Courses

060. Fundamentals of Music. (1). Intended for those who do not read music and/or who need additional help in the fundamentals of music. Topics include the staff, clefs, keys, meter, tempo, notes, rests, and other basic knowledge.

113Q. Introduction to Music Literature. (3). Division A course/elective. Development of skills and techniques used in critical analysis and a comparison of the contrasting styles of both Western and non-Western music. For music majors or students with some musical background.

114. Music Literature Survey. (2). A survey of representative works from the vocal and instrumental repertoire. Prerequisite: Mus. C. 113Q or instructor's consent.

127Q. Theory I. (2). Division A course/elective. Fundamentals of music, melody writing and analysis, elementary harmonic structures (cadences, phrase, period), basic orchestration and simple harmonic background and contrapuntal relationships applied to literature from all periods of music. Studies one selected score being performed during the semester by a University ensemble. Prerequisite: concurrent enrollment in Mus. C. 129.

127H. Theory I Honors. (2). Fundamentals of music, melody writing and analysis, elementary harmonic structures (cadence, phrase, period), simple harmonic relationships and contrapuntal voice-leading techniques. Prerequisites: concurrent enrollment in Mus. C. 129 and departmental consent.

128. Theory II. (2). A continuation of Theory I. Formal expansion includes binary and ternary structures. Further elaborates basic harmonic structures. Studies another score being performed by a University ensemble. Prerequisites: Mus. C. 127Q and concurrent enrollment in Mus. C. 129 or 130.

128H. Theory II Honors. (2). Formal expansion includes binary and ternary structures. Further elaborates basic harmonic structures. Prerequisites: Mus. C. 127Q or 127H, concurrent enrollment in Mus. C. 129 or 130 and departmental consent.

129. Aural Skills I. (2). Recognition, singing and dictation of melodies from all periods of music. Emphasizes interval training, Instruction assisted by computer. Partially fulfills State Certification and Teacher Education Regulation gl-1-80: "the ability to teach reading skills appropriate to the level of the student and to the subject context."

130. Aural Skills II. (2). Continuation of melodic, rhythmic perception. Includes recognition and dictation of diatonic harmonic structures. Instruction assisted by computer. Partially fulfills State Certification and Teacher Education Regulation gl-1-80: "the ability to teach reading skills appropriate to the level of the student and to the subject context." Prerequisite: Mus. C. 129.

>160G. The Heritage of Western Music. (3). General Education Core Introductory course elective. Acquaints the nonmajor with the central traditions of Western music. Emphasizes 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.

161. Music through the Ages. (3). Open to all students, particularly those involved in alternate schedules. Helps students develop the capacity for critical music listening and an appreciation for all musical styles. Television course.

>162G. World Music. (2). General Education Core Introductory course elective. A view of music as a global and cultural art form. Designed for the general student to better understand the importance and significance of music in all world cultures.

227. Theory III. (2). The study of contrapuntal forms and textures from music of all periods. Explores melodic, harmonic and rhythmic aspects of this music, as well as basic orchestration techniques related to these textures. Includes study of an appropriate score being performed by a University ensemble. Prerequisite: Mus. C. 128.

228. Theory IV. (2). Study of the larger homophonic forms (sonata, rondo) using techniques acquired in previous semesters. Includes analysis of an appropriate score being performed by a University ensemble. Partially fulfills State Certification and Teacher Education Regulation gl-1-80: "the ability to teach reading skills appropriate to the level of the student and to the subject context." Prerequisite: Mus. C. 227.

229. Aural Skills III. (2). Recognition, singing and dictation of contrapuntal textures with continued harmonic practice emphasizing elementary chromaticism. Instruction assisted by computer. Partially fulfills State Certification and Teacher Education Regulation gl-1-80: "the ability to teach reading skills appropriate to the level of the student and to the subject context." Prerequisite: Mus. C. 130.

230. Aural Skills IV. (2). Summation and expansion of previous skills further emphasizing harmonic chromaticism and atonal contexts. Instruction assisted by computer. Partially fulfills State Certification and Teacher Education Regulation gl-1-80: "the ability to teach
Courses for Graduate/Undergraduate Credit

523. Form and Analysis. (2). Extensive analysis of the forms and formal processes of musical literature. Prerequisite: Mus. C. 228.

531. Introduction to Electronic Music. (2). Basic techniques of electronic music. Directed toward musicians who wish to use the electronic medium in teaching, performing or communicating through music in any way.

559-560. Applied Composition. (2-2). Individual study in advanced musical composition emphasizing writing for small ensembles in the smaller forms. For theory-composition majors. Repeatable. Prerequisites: Mus. C. 260 and consent of theory-composition area faculty and department chairperson to continue as a theory-composition major.

561. 18th Century Counterpoint. (2). Counterpointal devices of the 18th century as found in the works of J.S. Bach. Prerequisite: Mus. C. 228.


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 service playing, such as hymn playing, modulation, accompanying and improvising. Required of all organ majors. Repeatable. Prerequisite: Mus. C. 228 or departmental consent.

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. C. 113 is strongly recommended before taking the course. Should be only upper division or graduate students. Not limited to music majors.

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. Not limited to music majors.

641. Orchestration. (2). The study of instrumentation, emphasizing idiomatic scoring for various instrumental combinations with an approach to the problems of full orchestra and band scores. Prerequisite: Mus. C. 227.


659-660. Applied Composition. (2-2). Individual study in musical composition emphasizing writing for both small ensembles and large groups in the larger forms. Repeatable. Prerequisites: Mus. C. 560 and instructor's consent.

661. 16th Century Counterpoint. (2). Analysis and application of the contrapuntal composition techniques of the 16th century. Prerequisite: Mus. C. 228.

671. Chromatic Harmony. (2). Advanced study of chromatic harmonic materials of all periods with special attention to the 19th century. Emphasizes analysis and creative writing. Prerequisite: Mus. C. 228.

672. Contemporary Techniques. (2). Advanced study of music from impressionism to the present emphasizing related literature and creative writing. Prerequisite: Mus. C. 228.

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.


726. Voice Literature. (3). A comprehensive survey of early Italian arias, French chansons, German lieder, contemporary English songs and Russian and Spanish literature.

750. Musicology-Composition Workshop (1-4). Repeatable for credit. Prerequisite: instructor's consent.

753. Choral Literature I. (2). A historical and stylistic survey of choral literature of the Renaissance and Baroque eras.


790. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent.

791-792. Seminar in Music History. (3-3). Develops areas of interest in music history as time permits. Makes no effort at a chronological survey. Includes ideas evoking the most interest and considered by the instructor to be of the greatest professional benefit when interest warrants.

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. Develops analytical perspective rather than composition skills.

840A-C. Seminar in the Techniques of Composition. (2). Examines the nature of compositional techniques through selected works in different media: (A) large ensembles, (B) small
The School of Performing Arts includes:

896. Music of the 19th Century. (3).


Offers the Bachelor of Fine Arts in Performing Arts/ Theatre.

School of Performing Arts

Leroy W. Clark, Chair

The School of Performing Arts includes the areas of dance and theatre. The school offers the 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 253, Costuming for the Stage; Theatre 345, Stage Lighting.

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, music for dance, repertory, lighting, make-up and costuming. Additional courses are offered in methods of teaching and practice teaching, jazz, tap, ballroom 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.

Any student who intends to pursue dance as a major should contact the dance program early in their educational career for assignment to a faculty academic adviser.

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 a least 24 of these hours in modern dance technique. All majors must take 10 technique classes per week which in ballet and modern are taken concurrently until the student reaches the required hours of dance technique.

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 dance majors are required to perform in Mid-America Dance Theatre, and/or a School of Performing Arts/Dance-sponsored performance each semester. Junior and senior dance majors who are not accepted in MADC are required to perform in an approved dance-sponsored performance. This requirement does not apply to senior dance majors during the semester in which they present their senior concert. Students accepted in MADC may register for Dance 320, Dance Performance, each semester.

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. At least half of the concert must be new works choreographed by the senior student. The total length of time for the senior concert should be between 20 and 25 minutes. A written documentation of the choreography, performance and production aspects of the concert must be submitted to the faculty for approval, followed by an oral defense of the documentation and concert.

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.

Course

| Dance 201, Modern Dance Technique | 1 |
| Dance 301, Modern Dance II | 2 |
| Dance 401, Modern Dance III | 3 |
| Dance 405, Choreography III | 4 |
| Dance 406, Performance | 1 |
| Total | 18 |

In addition to the above required courses, a minimum of 6 hours should be selected from the following: dance, music, art, and dance courses with at least 3 hours in two disciplines.

Thea 143G, The Art of the Theatre; 243Q, Acting; 244, Stagecraft; 623Q, Development of Theatre I; or 624Q, Development of Theatre II

Mus. C. 160G, The Heritage of Western Music; 315, Music of the 20th Century; or 346, Styles of Jazz

Art F. 122G, Survey of Western Art: Renaissance and Baroque; 124, Survey of Western Art: Modern; 525, 20th Century; or Art. F. 136, Foundation 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

The remaining hours should be selected to fulfill General Education program requirements. A minor in Dance consists of the following: 140, 201, 210, 225Q, 301 or 425Q, 305, and 320.

Lower-Division Courses

120. Jazz (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.

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.


150. Dance Workshop. (1-4). Repeatable for credit.
201. Modern Dance Technique I. (2-3). Introduction to study of basic positions, body alignment, stretches and strengthening exercises; emphasizes simple movement phrases to develop understanding of direction, rhythm and dynamics. Repeatable for credit.

210. Ballet I. (2-3). Introduction to basic technique, positions, basic steps, proper body alignment, classroom structure and etiquette. REPEATABLE

220. Jazz II. (1-2). Continuation of Dance 120 at intermediate level. Repeatable for credit. Prerequisite: instructor's consent or by audition.

225Q. Dance History I. (3). Division A course/elective. The development of western theatrical dance up to the 20th century. Study of national origins and period dance movement styles, including ballet.

Upper-Division Courses

301. Modern Dance II. (2-3). Continuation of Dance 201 emphasizing movement phrases. Intermediate level. Repeatable for credit. Prerequisite: instructor's consent or by audition.

305. Choreography I. (4). Focuses on improvisation and composition. Students are required to do compositional studies which may include time, space, energy, design, dynamics, rhythm, motivation, sequencing, phrasing, movement qualities and transitions. Prerequisites: one year of modern dance and equivalent to intermediate technical level. Concurrent enrollment in appropriate-level modern dance or ballet technique class required.

310. Ballet II. (2-3). Continuation of Dance 210. Intermediate level. Repeatable for credit. Prerequisite: instructor's consent or by audition.

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.

320. Dance Performance. (1). Perform in Mid-America Dance Theatre, Senior and/or Choreography concert, or outside performances approved by Dance faculty. Prerequisite: Audition. May be repeated for credit.

401. Modern Dance III. (3). Continuation of Dance 301. Upper intermediate level. Repeatable for credit. Prerequisite: instructor's consent or by audition.

405. Choreography II. (4). Further work in improvisation and composition. Course culminates in a performance of solo works, duets, and small groups for an invited audience. Prerequisites: Dance 305 and concurrent enrollment in appropriate-level modern dance or ballet technique class.

410. Ballet III. (3). Continuation of Dance 310. Upper intermediate level. Repeatable for credit. Prerequisite: instructor's consent or by audition.

425Q. Dance History II. (3). Division A course/elective. Twentieth century dance emphasizing the development of ballet and later, modern dance. Study of major choreographers, performers and dance companies.

Courses for Graduate/Undergraduate Credit

501. Modern Dance IV. (3). Continuation of Dance 401. Advanced level. Emphasizes professional technique and performance quality. Repeatable for credit. Prerequisite: instructor's consent or by audition.

505. Choreography III. (3). 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. Prerequisites: Dance 405 and concurrent enrollment in appropriate-level modern dance or ballet technique class.


545. Methods of Teaching Dance. (3). Develops 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.

560. Choreography IV. (3). Further work on the choreographic process begun in Choreography III. Class produces a concert of the students' works at the end of the semester. Prerequisites: Dance 505 and concurrent enrollment in appropriate-level modern dance or ballet technique class.

565. Practice in Teaching Dance. (3). Actual placement in teaching situation with responsibility of teaching ballet, modern and/or jazz to university students. Prerequisite: Dance 545.

690. Special Topics in Dance. (1-6). For individual or group instruction. Repeatable for credit with departmental consent.

750. Dance Workshop. (1-4). Repeatable for credit.

Theatre

Theatre offers a broad academic program, balanced by the extensive production schedule of the University theatre—Mainstage; Experimental Theatre; Readers' 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 all 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. Including the core courses, the following requirements must be met.

Theatre Performance Track

A minimum of 80 hours, including Theatre 145G, 180, 221Q, 222, 225, 230, 241, 243Q, 244, 253, 254, 272, 345, 359, 380, 450, 455, 542, 623Q, 624Q, 643, 651, 728; with 3 hours chosen from the following: Theatre 218, Dance 201, Dance 210; and 6 hours chosen from the following: Theatre 516, 517, 559, 590, 675, or 725.

Technical Theatre and Design Track

A minimum of 80 hours, including Art 145, Theatre 143G, 180, 243Q, 244, 253, 254, 272, 344, 345, 359, 380, 444, 450, 451, 544, 546, 623Q, 624Q, 647, 649, 653, 657, 728; with 3 hours chosen from the following: Theatre 375 or 675; and with 5 hours chosen from theatre electives.

Theatre Minor

A minor in theatre consists of the following required classes: Theatre 243Q, 244, 253, 272, 345, 380 or 345 and 3 hours from the following: Theatre 450, 623Q or 624Q.

Communication/Theatre

For the Master of Art in Communication/Theatre, see Communication.

Lower-Division Courses

143G. The Art of the Theatre. (3). Division A course/elective. An introduction to the theatre as an art form emphasizing critical appreciation from the viewpoint of the audience.

180. Theatre Practicum. (1). Practical training in the organization and presentation of plays in the University Theatre program. May be organized in the following areas: design and construction of scenery, costumes, properties; the design and execution of stage lighting or makeup; the organization and practice of theatre management; and performance. May be repeated for credit.

218. Stage Movement. (3). Deals with basic warm-ups, strengthening and stamina exercises and corrective-maintenance exercises to aid in the development of an expressive body for the actor.

221Q. Oral Interpretation. (3). Cross-listed as Comm. 221Q. Division A course/elective. The development of the mental, vocal and analytical techniques essential to the oral interpretation of literature.

222. Improving Voice and Diction. (3). Cross-listed as Comm. 222. For students wishing to improve their speaking voices and gain greater control over their pronunciation of spoken English. Course is performance oriented how-
ever, the anatomy of the vocal mechanism and the International Phonetic Alphabet are studied for practical application in the improvement of voice and diction.

225. Expressive Voice for the Stage. (3). Develops the individual's ability to express thought and emotion on the stage through the effective use of the voice. Exercises, drills, poetic and dramatic readings are used to improve the quality, flexibility and effectiveness of the speaking voice. Prerequisite: Thea. 222.

230. Dialects for the Stage. (3). Familiarizes the student with certain regional American and foreign dialects. Intended to be a practical guide for the student actor who is called upon to reproduce a particular dialect for performance. Prerequisite: Thea. /Comm. 222.

241. Improvisation and Theatre Games. (3). For the beginning student in theatre. Through exercises, analyses and readings, the course contributes to the training of the student actor's imagination, his/her sense of stage presence and ability to explore basic components of playtexts.

243Q. Acting I. (3). Division A course/elective. Emphasizes the internal techniques of acting, characterization and the actor's analysis of the play and the role.

244. Stagecraft. (4). Lab arr. An introduction to principles of costume design and construction. This class touches on all aspects of the design process from conception of ideas to final product on stage. Includes approaches to rendering the costume design, basic pattern making, fabric selection, and dying. Practical experience with University Mainstage and Second Stage productions.


254. Stage Makeup. (2-3). Study and practice of the basic application of stage makeup. Also includes character analysis, anatomy, materials and special makeup techniques and problems.

272. Stage and Theatre Management. (3). Acquaints students with the fundamentals of stage and theatre management. Students study all technical aspects of production (budgets, schedules, properties, etc.). In addition to classroom projects, students are required to work as stage managers or as assistant stage managers for a theatre production. Prerequisite: sophomore standing.

Upper-Division Courses

344. Scene Design. (3). Fundamentals of scene design. Emphasizes strong work in perspective rendering, drafting techniques and scale, and playscript and spatial analysis.

345. Stage Lighting. (4). Lab arr. Light design and its relation to the production process and other design elements. Emphasizes working knowledge of lighting equipment towards creative implementation. Includes practical work on University Theatre Mainstage and Second Stage productions.

359. Directing I. (3). R; L arr. Basic theories and principles of stage directing and problems of producing the play with practical experience gained by use of the project methods. Prerequisite: Thea. 243Q, 244, 272 or departmental consent.

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.

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 of costumes, sets, or properties; the design and execution of stage lighting or makeup; acting; and practice of theatre management; and performance. May be repeated once for credit.

444. CAD Applications for the Theatre. (3). Designed to enhance the student's working knowledge of technical drafting for the theatre. Coursework involves the application of various CAD programs to the production of working drawings for scene, lighting, costume, and sound designs. Emphasis is placed on the visual representation of a design idea in the collaborative production process. Prerequisite: Thea. 253, 344 and 345.

450. Contemporary Theatre and Drama: Topcis. (3). An investigation of the major developments and directions in theatre since 1920. Includes studies in directing, acting, design, production and performance, as well as dramatic literature. Prerequisite: junior standing (60 hours) or above.

451. Portfolio Review. (1). Senior level. Helps the technical theatre and design student prepare a professional portfolio in one or a combination of the design areas, a resume and a presentation as an application suitable for either graduate school or future employment. Prerequisite: must be taken in graduating year.

455. Senior Jury. (1). For the graduating student in the performance track of the BFA in Performing Arts/Theatre programs. Requires a performance of material in recital circumstances. Prerequisite: senior standing.

490. Theatre Internship. (3-15). Advanced theatre production work as arranged by students in direction, acting, scenery and lighting, costume design and construction, or theatre management with a professional theatre company. Prerequisite: junior standing or departmental consent. Total of internship activity applicable toward graduation is 15 credits.

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 designs for specific productions for either Mainstage or Experimental Theatre. Repeatable twice for credit if taken in different design areas. Prerequisite: instructor's consent.

516 & 517. Playwriting I and II. (3 & 3). Cross-listed as Engl. 517 and 518. The writing of scripts for performance. Emphasizes both verbal and visual aspects of playwriting. If possible, the scripts are performed. Prerequisite: instructor's consent.

542. Advanced Acting. (3). Continued development of methods established in Thea. 243Q with additional emphasis on contemporary vocal and movement techniques. Prerequisites: Thea. 243Q and sophomore standing.

544. Advanced Stagecraft. (3). R; L arr. Explores advanced construction techniques for the fabrication of stage scenery and stage properties. Such operations may include welding, vacuum forming, carpentry, and working with a variety of new materials. Students complete a research project and presentation/demonstration of research findings. Independent projects relating to materials and techniques studied are pursued in arranged labs. Prerequisite: Thea. 244.

546. Scene Painting. (3). Presented with a lecture-demonstration-studio arrangement. Explores various theatre painting materials and techniques enabling the student to develop some skill as a scenic artist. Prerequisite: Thea. 244.

559. Directing II. (3). R; L arr. Staging and rehearsal techniques emphasizing the problems of the period and stylized play. Prerequisite: Thea. 259 or departmental consent and junior standing.

590. Theatre: Special Topics. (2-3). Designed to expand and strengthen the experience of the student academically and professionally. Study of developments in theatre that go beyond or are related to, courses already offered will give students a much richer preparation for their field of study. Topics include new technology, new materials, contemporary explorations in performance, and in-depth study of production methods.

610. Directing the Musical. (3). An interdisciplinary course utilizing interdepartmental expertise (theatre, dance, music) to teach the student how to produce a musical. Prerequisite: instructor's consent.

621. Advanced Oral Interpretation. (3). Intensive study and analysis of various kinds of literature. 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.

622. Academic Theatre Practicum. (2). The investigation and exploration of the theatrical act in the classroom situation within the University community. Reinforces 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.

623Q. Development of the Theatre I. (3). Division A course/elective. The history of theatrical activity as a social institution and an art form from its beginnings to the 17th century. Includes representative plays, methods of staging and theatrical architecture of various periods.

624Q. Development of the Theatre II. (3). Division A course/elective. History of theatrical activity as a social institution and an art form from the 17th century to the present. Includes representative plays, methods of staging and theatrical architecture of various periods.

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, and Restoration styles. Prerequisites: Thea. 243Q, 542 and junior standing.

647. Scene Design II. (3). Continuation of Thea. 344 with more advanced work in designing settings for the stage and including studies in scenicographic techniques and exercises in model building. Student designs settings for a production having a single set, a production requiring a simultaneous setting and a production using multiple settings. Requires no laboratory work in theatre production. Prerequisites: Thea. 244 and 344.

649. Stage Lighting II and Theatre Sound. (3). Continues the study and application of the theories and techniques of Thea. 345, emphasizing advanced concepts of design, and provides an introduction to theatre sound production. Prerequisite: Thea. 345.

651. Scene Study. (3). The synthesis of all previous acting courses. Studies scenes 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.

653. History of Costume. (3). R: L arr. Historical survey and individual research of dress from ancient Egypt to present day emphasizing social, political, economic and religious influences. Theory and practice of adapting period styles to the stage. Prerequisite: Thea. 253 or departmental consent.

657. Costume Design I. (3). Covers the techniques of costume design for the stage. Students strengthen and expand their knowledge of techniques in costume design for the stage, film and television. Prerequisites: Art F. 145, Thea. 253.

675. Directed Study. (2-4). Cross-listed as Comm. 675. Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

725. Dramatic Theory. (3). Critical examination of selected aesthetic theories of the theatrical arts and the relationship of the theories to major dramatic works and theatrical periods. Prerequisite: Thea. 623Q, 624Q or departmental consent.

728. Playscript Analysis. (3). Develops students' abilities to analyze playscripts from the point of view of those who face the task of staging them. Focuses on studying and testing practical methods of analysis developed by outstanding theatre directors, teachers and critics. Collective analysis and individual projects are part of the course work. Prerequisite: Thea. 623Q or 624Q.

780. Theatre Internship. (3-15). Advanced theatre production work as arranged by students in direction, acting, scenery and lighting, costume design and construction or theatre management with a professional theatre company. Prerequisite: junior standing or departmental consent. Total of internship activity applicable toward graduation is 15 credits.

Courses for Graduate Students Only

820. Investigation and Conference. (2-3). Cross-listed as Comm. 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.

823. History of Dramatic Criticism. (3). A survey and analysis of major critical theories from Aristotle to the present.

824. Development of Modern Theatre Styles. (3). An examination of the major movements in the modern theatre since 1870. Emphasizes both literary and physical elements of styles.

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
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, health care administration, health science, health services organization and policy, medical technology, nursing, occupational therapy assistant, physical therapy assistant, 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 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 learn 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 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 of the American Physical Therapy Association, National League for Nursing, the Committee on Allied Health Education and Accreditation of the American Medical Association and the National Accrediting Agency for Clinical Laboratory Sciences.

Degrees Offered

Undergraduate

Of the programs offered at the undergraduate level, six lead to bachelor's degrees—health care administration, health science, health services organization and policy, medical technology, nursing and physician assistant.

In addition, the Associate of Science is awarded in dental hygiene, occupational therapy assistant, physical therapy assistant, and respiratory therapy. Students in the emergency medical training program receive a certificate of completion.

Graduate

Three programs lead to the master's degree—public health, nursing and physical therapy. A graduate program leading to the Master of Public Health (MPH) degree with options for administration and research is offered. Admission to the MPH program of study requires a bachelor's degree and the fulfillment of additional requirements.

A Master of Science in Nursing (MSN) program, designed to meet the needs and professional goals of the student, is offered for part-time or full-time study. Clinical concentrations are offered in adult nursing, including medical-surgical, community health and gerontology; maternal child nursing; psychiatric/mental health nursing; and nursing administration. Role development in administration, teaching, clinical nurse specialist or family nurse practitioner is available.

An entry-level master's program (MPT) is offered in physical therapy. The program prepares graduates to enter the clinical practice of physical therapy, where the focus is on clinical skills, education, research and administration. Graduates are prepared to specifically evaluate and treat neuromuscular, musculoskeletal, cardiopulmonary, and sensorimotor functions.

More information on graduate programs is available in the Wichita State University Graduate Bulletin.

Policies

Undergraduate Admission

Students who have declared a major in one of the programs in health professions will be admitted directly to the College of Health Professions upon admission to WSU.

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 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.

Progression

To progress in courses offered in the clinical programs, students must earn an S, C or C or better in both segments of the course in order to pass the course. Students who fail to meet these requirements may be dismissed from the program. If the student's overall grade point average remains at 2.00 or above, the student may petition the Committee on Admission and Progression in his/her program to remain in the program. Students should check the individual program sections of the Undergraduate Catalog for additional requirements.

Probation and Dismissal

Students are placed on probation for the next term in which they enroll if their 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 WSU cumulative grade point average is not at least 2.00. Probation is removed when a student's WSU 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 physical education. Exception to this limitation may be made on the recommendation of a student's adviser with the approval of the dean of the college.

Students on probation are subject to academic dismissal from the College 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.

Exceptions

Students may petition the program, college or University for exception to any requirement. Students are required to discuss all petitions with their college/program adviser prior to submission of the petition. Petitions may or may not be approved by the body to whom the petition was made.
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 degrees.
A minimum of 30 credit hours in course work in residence at WSU is required for all students seeking bachelor's degrees at WSU. In addition, these students must also complete all University, college and departmental requirements for the degrees being sought. Completion of University courses is counted toward fulfillment of the residency requirement. For specific requirements, consult the individual program sections of the Catalog.

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 eligibility requirements stated by the particular program.
(See the appropriate program's section in the Catalog.)

Students should check with their program advisors 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.

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 program 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 programs in the college; these undergraduate courses may have prerequisites or other specific requirements for enrollment. To enroll in the program or for more information, students should contact the college cooperative education coordinator or the program adviser.

Clinical Affiliation
The college, because of its location in Wichita, has affiliation agreements with various excellent health facilities which assist in the clinical education of students. The clinical affiliates include a wide variety of hospitals, long-term care facilities, public schools, private practitioners and community agencies.

Liability Insurance Requirements, Health Insurance and Health Standards
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. Additionally, other health standards are required prior to entry into the clinical agencies. Students should communicate with individual programs about specific requirement.

Financial Assistance
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 Student Financial Planning and Assistance and the program from which the student is seeking a degree or certificate.

Special Certificate Program
The College of Health Professions offers a certificate program in basic emergency care training. It cooperates with the College of Education in offering a certification program for school nurses (see Nursing).

Basic Emergency Medical Care Training
A certificate in basic emergency medical care training is offered. The certificate is obtained with successful completion of HS 150D. Students who would like to enroll in this course must fulfill all requirements for admission to Wichita State University and be at least 18 years old.

HS 150D encompasses classroom instruction and ten hours of in-hospital observation. Successful completion of the course meets the educational prerequisite for taking the state and/or national registry examinations for emergency medical technicians.

Mobile Intensive Care Technicians
A program for the training of mobile intensive care technicians (MICT) is offered cooperatively by Wichita State University, Sedgwick County, and Cowley County Community College. The basic program consists of 47 credit hours. However, students may be awarded an Associate of Applied Science with an emphasis in emergency medical training by combining the 47 credit hours from the successful completion of the MICT training program with nine hours of course work from Cowley County Community College (offered in Wichita) and 18 additional general education hours from WSU or another accredited institution. Successful completion of this program does not guarantee certification but does allow one to challenge the certification examination given by the State of Kansas.

Degree Requirements and Course Listings
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 optimum 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. Wichita State University program is accredited by the Commission on Dental Accreditation.

The Bachelor of Science in Health Services Organization and Policy degree is available to students who seek to expand
their role in education or administration. Students interested in more information should contact the college dean's office student adviser.

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 Dental Hygiene program. 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 Director, Dental Hygiene Program, Wichita State University, Wichita, Kansas 67260-0144.

To qualify for admission to the dental hygiene program, applicants must be high school graduates or have passed the General Education Development test. Students must meet the following admission criteria. They must:

1. Have taken or be enrolled in Biol. 223, Human Anatomy and Physiology; Chem. 103Q, General Chemistry; Eng. 101, College English I; Psy. 111Q, General Psychology; and Biol. 120Q, Introduction to Microbiology.
2. Maintain a minimum grade point average of 2.50 in all college work.
3. Have a minimum grade of C in all prerequisite courses.
4. Complete Wichita State University and College of Health Professions general admission requirements.

Students must also have their admission approved by the program's committee on admissions.

Curriculum. The following courses, totaling 81 hours, must be taken by dental hygiene students.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>DH 290, Embryology, Histology and Oral Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>DH 301, Dental Materials and Expanded Functions</td>
<td>3</td>
</tr>
<tr>
<td>DH 302, Clinical Dental Hygiene II</td>
<td>2</td>
</tr>
<tr>
<td>DH 303, Dental Hygiene Concepts II</td>
<td>2</td>
</tr>
<tr>
<td>DH 304, Dental Hygiene Concepts III</td>
<td>2</td>
</tr>
<tr>
<td>DH 305, Periodontics</td>
<td>3</td>
</tr>
<tr>
<td>DH 307, Ethics and Jurisprudence</td>
<td>2</td>
</tr>
<tr>
<td>DH 309, Community Dental Hygiene</td>
<td>1</td>
</tr>
<tr>
<td>DH 311, Dental Health Education</td>
<td>2</td>
</tr>
<tr>
<td>DH 316, Pain Management</td>
<td>2</td>
</tr>
<tr>
<td>DH 323, Clinical Dental Hygiene III</td>
<td>3</td>
</tr>
<tr>
<td>DH 324, Clinical Dental Hygiene IV</td>
<td>4</td>
</tr>
<tr>
<td>DH 409, Introduction to Research for the Health Professions</td>
<td>1</td>
</tr>
<tr>
<td>HS 301, Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>HS 315, Head and Neck Anatomy</td>
<td>2</td>
</tr>
<tr>
<td>HS 331Q, Nutrition</td>
<td>3</td>
</tr>
</tbody>
</table>

Special Requirements

Students are required to purchase uniforms and instruments needed during clinical learning experiences. Students also are required to purchase professional liability insurance and personal health insurance on an annual 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 Dental Hygiene program, Wichita State University, Wichita, Kansas 67260-0144.

Upper-Division Courses

301. Dental Materials and Expanded Functions. (3). 2R; 2L. Fundamental instruction in practical laboratory phases of modern technique and the manipulation of materials and equipment used in dental practice and expanded auxiliary practice. Prerequisite: program consent.

302. Clinical Dental Hygiene II. (2). Continued development of proficiency of clinical techniques emphasizing advanced periodontal instrumentation techniques. Class meets during Summer Session. Prerequisite: program consent.

303. Dental Hygiene Concepts II. (2). Fall semester only. Seminar discussion of current and advanced clinical concepts as well as other topics related to the treatment of the medically compromised patient. Prerequisites: DH 201 and program consent.

304. Dental Hygiene Concepts III. (2). Spring semester only. Discussion of dental specialties and explanation of the rationale for treatment prescribed by the dentist. Prerequisite: program consent.

305. Periodontics for the Dental Hygienist. (3). Spring semester only. Lecture and visual aid presentation of the etiology and classification of periodontal disease. A study of the treatment of the periodontally involved patient with emphasis on appropriate treatment planning for specific periodontal conditions. Prerequisite: program consent.

307. Ethics and Jurisprudence. (2). Spring semester only. 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 banking, bookkeeping, office and personnel management and patient records. Prerequisite: program consent.

309. Community Dental Hygiene. (3). An introduction to the foundations of dental health in the community, epidemiology, health care systems and organization of community services with fieldwork in applying the learned concepts. Prerequisite: program consent.

310. Dental Health Education. (2). Spring semester only. Covers the professional philosophy and foundations of dental health education. Students develop dental health education materials and give presentations to children, adult and minority groups in the community.

316. Pain Management. (2). 1R; 2L. Fall semester only. Designed to enhance the dental hygiene student's knowledge of the mechanisms of pain, the control of dental pain through the administration of topical anesthetics, infiltration, and block anesthesia; and use of nitrous oxide. Emphasis is placed on a thorough understanding and use of the pharmacology of dental drugs and their interaction with the client's current conditions and medications. Prerequisites: HS 301 and 315.

323. Clinical Dental Hygiene III. (3). 12L. Fall semester only. Continued development of clinical proficiency and utilization of various scaling techniques and instruments. Prerequisite: program consent.

324. Clinical Dental Hygiene IV. (4). 16L. Spring semester only. Final semester of clinical dental hygiene. Students utilize information and skills acquired in previous courses and continue to demonstrate proficiency and increase their level of competency in all objectives from DH 202, 302 and 323. Prerequisite: program consent.

348. Clinical Skills Update. (1-3). Designed to provide clinical remediation to graduate dental hygienists who wish to review and enhance clinical skills. Students develop a self-study plan which will enrich their knowledge and skill above that offered in the dental hygiene core curriculum. Emphasis is placed on identification of clinical skill level, development of remediation schedule, and self-evaluation skills. Students negotiate with dental hygiene program as to the hours of lecture and clinical practice needed to reach student's goals. Prerequisite: Must be a graduate of an accredited dental hygiene program.

350. Pain Management. (2). Updates the practicing dental hygienist in the didactic and clinical administration of infiltration and block anesthesia and the use of nitrous oxide. Emphasis placed on the mechanisms of pain, a thorough understanding of the pharmacology of dental drugs, and their interactions with the client's current conditions and medications and clinical experience in the administration of infiltration and block anesthesia. Prerequisite: Must be licensed dental hygienist and graduate of an accredited dental hygiene program.

405. Concepts and Principles of Dental Hygiene Administration. (3). Examination and seminar discussion of the following topics: administrative theory, principles and concepts of organizations, history of management. Thought, planning and effecting innovation, business administration and finance, operations, motivation, leadership, conflict and communication. Prerequisite: program consent.

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 the ability to be a critical consumer of professional literature and the initiator of research projects. Prerequisite: program consent.

420. Course Development and Methods of Teaching in Dental Hygiene Education. (3). Seminar dealing with the implementation of teaching and learning theory and its application in the formation of a course of instruction. Students gain experience in teaching undergraduate students in laboratory/clinical settings. Prerequisite: program consent.

430. Curriculum Development in Dental Hygiene Education. (3). A continuation of DH 420. Focuses on the development of an educational curriculum for a dental hygiene program and additional opportunities are available for instruction in the clinical/laboratory setting. Prerequisite: program consent.

455. Personnel Management in Dental Hygiene. (3). Analysis of personnel management and completion of a personnel simulation, including job analysis, recruitment, interviewing, testing, job evaluation, wage determination, training, employee evaluation and career development. Prerequisite: program consent.

462. Special Problems in Dental Hygiene. (3). A practical approach to the application and acquisition of basic research techniques as related to dental hygiene. Includes the study and identification of research problems, review of related literature, development of research hypotheses and research methodology.

465. Research in Dental Hygiene. (3). A continuation of DH 462. The research proposal developed there is implemented, data are collected concerning a special problem in dental hygiene, data analysis is undertaken and conclusions are drawn relative to stated hypotheses. Prerequisite: DH 462.

Health Care Administration

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 health, health insurance organizations, educational institutions and governmental agencies at federal, state and local levels. 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 Health Science.

A minor in Health Care Administration is available to any student not pursuing a degree in Health Care Administration. A minor consists of 15 hours of Health Administration Education courses. The required courses are HSOP 325, Introduction to the Science of Health Disease; HSOP 320, Overview of Health Services Delivery; and HAE 590, Legal Aspects of Health Care Administration. An additional 6 hours of elective HAE credits are required.

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 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
4. Submit to the chairperson of Health Science a letter of intent including semester of enrollment. Intent to enroll forms may be obtained from Health Science, 401 Ahlberg Hall.

Progression

Students in the health care administration major are required to maintain a cumulative grade point average of 2.50 in their required work, including courses taken in business and health care administration. Students failing to meet this requirement will have one semester to bring their grade point average to 2.50. Failure to do so will result in dismissal from the program.

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 HSOP 320 before taking other health administration courses.
Basic Skills Courses ........................................... 12
Communications .............................................. 9
Engl. 101, College English I ................................ 3
Engl. 102, College English II .............................. 3
Comm. 111, Public Speaking ................................ 3
Math 111, College Algebra or equivalent ............ 3

Distribution Courses (30 hours with 9 hours of G courses)

Division A, Humanities and Fine Arts (at least nine hours in three different departments and at least five hours in General Studies courses)

Division B, Social and Behavioral Sciences (at least six hours in two different departments)

Psy. 111Q, General Psychology ................................ 3
Soc. 111Q, Introduction to Sociology .................... 3

Division C, Math and Natural Sciences (or six hours in two different departments)

Biol. 103G, The Human Organism (4) or any higher level biology course ............. 4
HS 331Q, Principles of Diet and Nutrition ............ 3

Other required courses

Acct. 210, Financial Accounting I ....................... 3
Acct. 220, Managerial Accounting I .................... 3
Econ. 201Q, Principles of Economics I ................. 3
Econ. 202Q, Principles of Economics II ............... 3
CS 105, Introduction to Computers ....................... 3
Psy. 404, Psychology of Aging ............................. 3
Mgmt. 360, Management and Organizational Behavior ...... 3
Mkt. 300, Marketing ........................................... 3
CESP 704, Educational Statistics .......................... 3
Pers. 466, Personnel Management ........................ 3
HSOP 325, Introduction to the Science of Health and Disease .. 3
HSOP 460, HSOP Practicum ................................ 3
HSOP 320, Overview of Health Services Delivery .... 3
HAE 504, Health Economics ................................ 3
HSOP 343, Program Planning/Development in Health Service Organization ............... 3
HAE 509, Health Care Operations Analysis ............... 3
HSOP 442, Financing Health Care Services ................ 3
Geron. 313, Sociology of Aging ........................... 3
HAE 590, Legal Aspects of Health Care Administration .... 3
HSOP 433, Introduction to Research and Evaluation Methods in Health Services ............ 5
HAE 684, Health Administration Policy ................... 3
HAE 685, Computer Applications in Health .............. 3
HAE 686, Seminar in Health Administration ........... 3

Approved electives to complete the 124-hour graduation requirements

Recommended electives

HAE 490, Independent Study in Health Care ............ 1-3
Phl. 337, Philosophy of Health Care ...................... 3
Geron. 518, Biology of Aging ................................ 3
Geron. 537, Social Consequences of Disability ....... 3
Psy. 336, Alcohol Use and Abuse .......................... 3
Soc. 538, Medical Sociology ................................ 3
Psy. 516, Drugs and Human Behavior .................... 3
Wom. S. 345, Women and Dependencies ................ 3

*Or other basic statistics course

Lower-Division Courses

111Q, Introduction to Community Health. (3).
Division B course/elective. Concerned with modern people and their effort to achieve harmony within the community and an analysis of people's inner and outer ecosystems as they relate to contemporary health issues.

281. Cooperative Education Field Study. (1-6).
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 appropriate faculty sponsors and cooperative education coordinators. Prerequisite: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit.

Upper-Division Courses

481. Cooperative Education Field Study. (1-6).
See HAE 281.

490. Independent Study in Health Care Administration. (3). Supervised intensive study of special topics and problems relating to health care delivery. Repeatable up to six hours. Prerequisite: program consent.

Courses for Graduate Students Only

504. Health Economics. (3). Cross-listed as Econ. 665. An analysis of health care systems in the United States including the demand for and supply of health care services, the quality, quantity and pricing of health services, the need for insurance and the role of the government in the health sector. Prerequisite: HAE 503 or Econ. 202.

509. Health Care Operations Analysis. (3). An examination of methods for measuring the operational efficiency and effectiveness of health care and medical care programs. Includes methods to analyze and evaluate current operations and approaches to plan better manpower, facility, technology, financial planning and management control systems in a health setting. Prerequisites: HAE 503, Math. 111 or equivalent, Mgmt. 360 and junior standing.

684. Health Administration Policy. (3). Cross-listed as Mgmt. 684. Gives graduating seniors an understanding of the structure of health care organizations, including the various roles and responsibilities managers have within these organizations. Exposure to management, policymaking and strategic planning processes is vital if students are to function in administrative positions in health care administration. Prerequisite: HAE 503 and at least one other HAE course or program consent.

685. Computer Applications in Health. (3).
Data reduction, summarization, editing and analysis using technical assistance of micro and mainframe computer for operational research and administrative purposes. Investigates health data bases from hospitals or other agencies such as state health department, PRO agency, HSA. More emphasis on microcomputers than on large computers with more statistical and graphical capacity. Prerequisite: HAE 605 or instructor's consent.

686. Seminar in Health Care Administration. (3).
In-depth discussion and analysis of selected topics in health care administration. Topics vary from semester to semester and include examination of specific financial, managerial and operational problems and characteristics of health service organizations and agencies. Prerequisites: HAE 503 and at least one other HAE course.

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.

Courses for Graduate Students Only

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.

Gives state-of-the-art techniques in health care accounting and provides a comprehensive coverage of financial theories and applications in health care. Prerequisite: instructor's consent.

825. Health Care Marketing. (3).
Marketing management for health services; examines the problem of organizational response to consumer desires and needs. Covers consumer behavior and development of marketing mix, product policy and market strategy appropriate to the specific situations of various health care institutions. Prerequisite: Mkt. 800 or equivalent or program consent.

Health Science

A variety of applied/clinical courses in the basic health sciences are offered. These courses are applicable to several programs within the college at the undergraduate and graduate levels.
Bachelor of Health Science

The program leading to a Bachelor of Health Science degree builds upon the foundation of an associate degree or other appropriate credential in an allied health area. The program offers additional study in health science, management or education, research or statistics and aging studies. Graduates of the program are prepared to expand their roles in health service areas and further their education in selected graduate programs such as the master's degree in public health.

Admission to the program requires that students have completed an associate degree or have post-secondary health credentials, hold a grade point average of 2.000 or higher, have completed the basic skills component of the WSU general education program and be admitted to the College of Health Professions.

Degree Requirements. In addition to the WSU general education and basic skills requirements, the student is required to complete 27 credit hours in the following areas: health science (9), management or education (9), research or statistics (3) and aging studies (6). A total of 124 hours which includes these specified requirements is essential for graduation.

Course Hrs.
Health Science 9
HS 301, Pharmacology ............... 3
HS 331Q, Nutrition .................. 3
HS 400, Pathophysiology .......... 3
HS 531, Applied Principles of Nutrition 3
HS 575C, Physiology of Special Cases 3

Management and Education 9
HSOP 325, Introduction to the Science of Health and Disorder .......... 3
HS 501, Instructional Design in Health Education .................. 3
HSOP 320, Overview of Health Services Delivery .................. 3
HAE 504, Health Economics .......... 3
HSOP 454, Health Politics .......... 3
HSOP 343, Program Planning/Development in Health Service Organization .......... 3
HS 575A, Legislative Aspects ........ 3
HS 575B, Survey Techniques in Marketing ............... 3
HAE 590, Legal Aspects of Health Care Administration .......... 3

Research and Statistics 3
DH 462, Special Problems in Dental Hygiene .......... 3
HSOP 433, Introduction to Research and Evaluation Methods .......... 3

Lower-Division Courses

150D. Emergency Care: First Responder. (3). Specifically for 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: program consent.

150. Workshop in Health Sciences. (1-10).

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. Emphasizes the health team concept.

231G. Current Issues in Food and Nutrition. (3). Division C course/elective. Survey course; examines the various controversial, legal and misconceptions surrounding nutrition and health; the cultural and historical aspects of food in America; and the political aspects of food and farm policy. Includes basic nutrition principles needed to fully understand the issues discussed.

Upper-Division Courses

301. Clinical Pharmacology. (3). A survey of therapeutic terms, drug actions, dosage, toxicology and application of drugs in the clinical setting. Prerequisites: Biol. 223 or equivalent and Chem. 103Q or 111Q or equivalent or instructor's consent.

315. Head and Neck Anatomy. (2). An in-depth study of the landmarks, muscles, nerves, vascular supply, etc., of the head and neck region.

331Q. Principles of Dietetics and Nutrition. (3). Division C course/elective. A study of human dietary and nutritional needs in the clinical setting. Covers composition and classification of foods, vitamins and their function; food and public health laws; and nutrition under special conditions. Gives a detailed application of dietetic and nutritional knowledge applied to various clinical conditions.

385. Health Care Team Concepts. (1-6). A seminar and practicum course which provides opportunity for health professionals to share experiences as members of the health care team. Department select the number of credit hours needed for students within their program. Prerequisite instructor's consent.

388. Clinical Anatomy. (6). Fall semester. Furthering the understanding of the health professional in a comprehensive and/or specific area of human anatomy. Emphasizes human anatomy of the thorax, abdomen, pelvis, head and neck. Prerequisites: Biol. 223 or equivalent, instructor's consent and enrollment in one of the professional programs.

389. Clinical Anatomy. (3). Spring semester. A continuation of HS 388 emphasizing human anatomy of the genital-urinary, neuromusculoskeletal system and neuro-anatomy. Prerequisites: HS 388, instructor's consent and enrollment in one of the professional programs.

390. Clinical Physiology. (3). Furthering 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. Department selects 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.

400. Introduction to Pathophysiology. (3). Cross-listed as Nurs. 400. For professional upper-division students enrolled in the College of Health Professions. Focuses on the essential mechanisms of disease processes which produce common diseases. Discusses common diseases, but as examples of the basic processes as covered, not as a part of an exhaustive inventory. Presents the health professional with accessible, useable and practical information they can broadly and quickly apply in their clinical or laboratory experience, or use as a basic pathophysiology course before taking the more specific professionally related pathophysiology courses. Prerequisite: instructor's consent or enrollment in upper-division CHP professional courses.

411. Special Projects. (1-6). Supervised intensive study of special topics and problems related to health professions. By arrangement. Prerequisite: program chairperson's consent.

421. Applied Clinical Pharmacology I. (3). Provides a practical knowledge of pharmacotherapeutics. Emphasizes the pharmacodynamic and toxicologic properties of chemotherapeutic agents and of drugs affecting the cardiovascular and autonomic nervous systems. Prerequisites: current enrollment in HS 390 and instructor's consent.
422. Applied Clinical Pharmacology II. (3). A continuation of HS 421 emphasizing drugs affecting the excretory, endocrine and central nervous systems. Prerequisites: HS 421 and instructor's consent.

430. Introduction to Fluids and Electrolytes. (2). Concepts of fluid and electrolyte balance in health and disease; includes discussions of clinical cases of diagnostic and therapeutic interest. Prerequisites: Chem. 103Q, Biol. 226 or equivalent and program consent.

450. Workshop in Health Sciences. (1-4).

Courses for Graduate/Undergraduate Credit

501. Instructional Design in Health Education. (3). Assists health professionals construct health science curriculum. Emphasizes identifying various curriculum models and applying educational principles, writing behavioral objectives and the acquisition of supplementary materials. Special emphasis to program development in school, community and patient education settings. Prerequisite: junior, senior or graduate standing in one of the professional programs or instructor's consent.

510. Clinical Departmental Management. (3). Presents concepts and methods of clinical department management through lectures, discussion, group interaction and individual problem solving and situational analysis projects. Provides information pertinent to management majors, department directors, shift supervisors and staff personnel who need an understanding of departmental management of clinical revenue generating departments. Prerequisites: senior standing or greater in health professions and MGMT 360 or instructor's consent.

511. Neuroanatomy and Neurophysiology. (3). 2R; 2L. Study of the structure, physiology and functions of the central and peripheral nervous systems. Prerequisite: HS 310 or CNS 214.

521. Independent Study. (1-6). Offers reading and conference experience to complete a course requirement or provide enrichment in a special area. Prerequisite: upper-division or graduate standing or program chairperson's consent.

531. Applied Principles of Nutritional Support and Therapy. (3). A study of the principles of nutritional support and diet therapy. Investigates the dietary concerns of a variety of clinical disorders including gastrointestinal disorders, diabetes mellitus, cancer, burns, obesity and weight loss, kidney and cardiovascular disease, parenteral and enteral nutrition and surgical conditions. Discusses nutritional assessment, data interpretation, case plan development, record keeping and client communications. Prerequisite: HS 331Q or instructor's consent.

550. Advanced Perinatal Cardiorespiratory Care. (3). Cross-listed as RT 550. Focuses on diagnostic and therapeutic modalities used in the care of high risk mothers and infants. Includes equipment and techniques used in tertiary care perinatal centers: high frequency ventilation, ECMO, air transport, and so on.

570. Interpretations of Sexuality for Health Professions. (3). Cross-listed as Nurs 570. Elective. Strategies to assist clients and families cope with sexual problems and disorders. Emphasizes relating varying interpretations of the biological, psychological and cultural aspects of sexuality to the helping professions. Open to nonnursing majors.

575. Special Topics or Selected Topics. (1-4). Lecture/discussion; focuses on a discrete area content relevant to the health disciplines. In-depth study of particular topic or concept, including didactic and current research findings and technological advances relevant to the topic. Open to nonmajors. Repeatable up to six credit hours with program consent.

700. Gross Anatomy. (6). 3R; 9L. For students in the physical therapy program. Study of the structure of the human body including embryology; emphasizes integration of embryological and anatomical information with human functional abilities. Prerequisites: four semesters of biological sciences or program consent.


705. Health Services Research. (3). An examination of statistical research methods used by health care professionals and organizations. Includes presentation of information, measures of location and variation probability, expectation, sampling distributions, hypothesis testing, analysis of variance and simple research designs. Prerequisite: upper-division statistics course or consent of MHS graduate coordinator.

706. Characteristics of the Adult in Professional Education. (3). Helps students understand the process of accomplishing professional development throughout the lifespan of the individual. Students explore the concept of professionalization and study the processes of health education, the demands of practice and the learners themselves. There are opportunities to apply knowledge, skills and abilities to real life situations through discussions, readings and reports in class. Prerequisites: HS 501 and 708.

708. Teaching and Learning Strategies in Health Science. (3). Examines the various means of presenting health knowledge and couples these teaching strategies with the audiences and types of student bodies that will receive this knowledge. Examines the nature of health care curriculum in depth, and procedures for developing and improving them. Explores health care education curricula. Prerequisite: program consent.

720. Neurosciences. (3) 3R; 2L. Integration of embryology, anatomical structure, physiology and functions of the central and peripheral nervous systems with human functional abilities. Prerequisite: HS 700 or program consent.

750. Workshop in Health Related Professions. (1-4). An examination of relevant topics directly and/or indirectly related to the delivery of health care services.

Courses for Graduate Students Only

800A. 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: HS 701 or program consent.

800B. Seminar in Health Education. (1). Covers current trends and directions in allied health education in both patient care and academic settings. Prerequisite: HS 701 or program consent.

802. Introduction to Public Health. (3). Introduction to the organization and activities of the public health system, its roles and problems. Introduction to administrative problems solving as a structured process. Prerequisite: instructor's consent.

804. Principles of Statistics in the Health Sciences. (3). An introductory graduate level course concerning the concepts of statistical reasoning, statistical principles, and their role as the scientific basis for clinical research and public health research and practice. Prerequisite or corequisite: HS 802.

806. Principles of Epidemiology. (3). An introductory graduate level course concerning epidemiologic principles and how these form the scientific basis for public health. Prerequisite or corequisite: HS 802.

810. Practicum/Project. (3). Enhances and complements the academic experience of students pursuing the Master of Health Science degree. Provides an opportunity to link the student's academic studies with actual practice in direct observation and supervised participation in the administrative/educational process in a selected health care organization. Students carry out their assigned tasks under the guidance and direction of a faculty member of the College of Health Professions. The student also may be under the direction of a field instructor/preceptor from the host agency.

812. Health Care Policy and Administration. (3). An in-depth look at policy and management issues in the health system from a public health perspective. Topics include health policy, trends in the health care system, administrative issues. Prerequisite or corequisite: HS 802.

815. Social and Behavioral Aspects of Public
Health. (3). Examines the characteristics beliefs and behaviors of individuals and groups involved in the process of health care. Draws on concepts and principles of the social, behavioral, and clinical sciences, especially dynamics that define the interactions of providers and consumers of health care. Explores why people react to perceived symptoms the way they do, the reasons providers respond as they do to patients in different social attributes, the factors which predispose individual reactions to illness and its correlates, and the effects on health of societal agreements and expectations. Prerequisite: HS 802.

816. Environmental Health. (3). A survey course in environmental health designed to provide an understanding of the fundamental theory and methods for the control of disease. Includes environmental law, disease systems, water supplies, plumbing, waste water treatment, food sanitation, vector control, recreation sanitation, solid waste disposal, housing sanitation, and air pollution. Prerequisite or corequisite: HS 802.

818. Fundamental Research Methods in Public Health. (3). Stresses mastery of basic concepts and techniques of research methodology used in public health programs. Focuses on acquisition of the generic tools of research design and their application to the real-world problems confronting those who deliver health care, those who facilitate and/or manage the delivery of care, those who conduct clinical and health services studies, and those who make policy affecting the delivery arrangements. Prerequisite: HS 804, HS 808.

820. Advanced Research Methods in Community and Clinical Settings. (3). Study research methods for use in any of the health science disciplines. Topics include power and sample size, randomized control trials, and integrated qualitative-quantitative techniques. Prerequisites: HS 814, HS 818.

822. Advanced Research Methods. (3). Advanced topics in health services research: advanced descriptive analysis, advanced multivariate analysis, modeling, causal interpretations, issues in evaluation, proposal writing, special issues in research in health care settings, and problems encountered on research projects. Prerequisite: HS 818.

824. Advanced Epidemiological Methods. (3). Additional statistical techniques and their application in the analysis of public health data are presented with special emphasis on the analysis of cross-sectional, retrospective, longitudinal, and case-control data. Prerequisites: HS 804, HS 808.

825. Health Care Marketing. (3). An examination of marketing principles as applied in the health care sector. Recognize, discuss, and apply marketing principles to health care environments. Prerequisite: Mkt 800.

826. Health Policy. (3). Examines the forces shaping key aspects of health care policy. Analyzes the political, economic, social, clinical, and scientific factors which result in given policy decisions. Particular attention is paid to the pivotal role that health services research plays in the process, including its centrality to the link between policy and the management of public health problems.


830. Issues in Health Services. (3). An in-depth look at current issues facing health professionals. Topics presented in lecture and student presentations and discussed in small groups, include health reform, access to care, other system issues, and organizational trends and strategies. Topics are critiqued with regard to public and private goals, consumer and provider interests, and ethics.

832. Quality Assurance of Health Care. (3). Covers issues of quality assurance in health care provision, including definition and measurement of quality.

834. Financing Health Care Services. (3). Provides an examination of the principles of financial analysis and management used in health care institutions which are most useful to non-financial personnel. It emphasizes understanding and application of general financial concepts to the health setting and includes consideration of financial organization, sources of operating revenues, budgeting, and cost allocation methods.

840. Practicum/Project. (6). Academic studies are linked with actual practice through observation and participation in the administrative and educational programs of public, voluntary, and private health organizations, under the direction of a preceptor from the host agency.

885. Thesis. (1-3). Repeatable to a maximum of six hours. Prerequisite: consent of thesis adviser.

Health Services Organization and Policy
The program in health services organization and policy seeks to develop professionally competent individuals to serve in various capacities in the health care industry. The program offers a broad base of knowledge in areas needed for management, clinical professional patient care services and research applications in health service organizations. Grads of the program may pursue a variety of career objectives in the health services industry. The degree may build upon the foundation of an associate degree or other appropriate credential in an allied health area or provide the base for an advanced degree in a clinical professional area such as physical therapy or medicine. The degree may be combined with a major or minor in business for those who wish to pursue management careers in the health industry or with course work in other areas to pursue a variety of careers in the health care industry. The degree also may serve as a base for those who wish to further their education in graduate programs such as public health, gerontology or other related areas.

A minor in health services organization and policy is available to any student not pursuing a degree in health services organization and policy. A minor consists of 15 hours of health services organization and policy courses. The required courses are HSOP 320, Overview of Health Services Delivery; HSOP 325, Introduction to the Science of Health and Disease; HSOP 328, Health Care Organization and six hours of elective HSOP courses.

Admission
In order to be admitted to the health services organization and policy curriculum, students must fulfill the following requirements:
1. Be enrolled in or admitted to Wichita State University.
2. Have completed 24 hours in required lower division courses, including nine hours of basic courses.
3. Have an overall grade point average of 2.00 or above in all college work completed and no grade lower than C in all required courses.
4. Submit a completed application to the director of the program and be accepted into the program. Application forms may be obtained from the College of Health Professions advising office in 402 Altshberg Hall.

Progression
Students in the health services organization and policy major are required to maintain a cumulative grade point average of 2.25 in their required course work in the major. Students failing to meet this requirement will have one semester to bring their grade point average to 2.25. Failure to do so will result in dismissal from the program.

Degree Requirements
In addition to the WSU general education and basic skills requirements, the student is required to complete the following HSOP courses totaling 33 credit hours for the major. The student may select either HSOP 460 or HSOP 461 as their capstone experience in the senior year.

Course Hrs.
HSOP 320, Overview of Health Services Delivery..................................3
HSOP 325, Introduction to the Science
sector factors which shape and regulate the system to operate, and the public services. The health status of individual populations, major health concerns at each stage of the life span, health promotion, and preventative services are addressed. Prerequisites: Biol. 105Q or equivalent.

328. Health Care Organization. (3). Covers issues of management, organization, and operations of health care organizations, stressing the unique character of health care delivery organizations. Emphasis is on types of health organizations, leadership and managerial roles, organizational structure and dynamics, interactions with organizational environments, and evaluation and planning. Prerequisites: HSOP 320 and HSOP 325 or concurrent enrollment.

333. Organizational Behavior and Leadership in Health Service Organizations. (3). Introduction to the concepts of leadership in health care organizations, with a focus on the dynamic roles of leaders in health care settings. The book explores the impact of organizational behavior on the quality of health care services. Prerequisites: HSOP 320 and HSOP 325 or concurrent enrollment.

454. Health Politics. (3). Shows how the government in the U.S. makes decisions in the health field, describes the political forces shaping governmental policy in health and analyzes the arguments for and against an increased governmental role in health. Prerequisite: HSOP 320 and HSOP 325 or concurrent enrollment.

460. Health Services Organization and Policy Practicum. (3-9). Provides an opportunity for field experience in the health care system. Students may select, with the consent of an advisor, an internship in an appropriate health service organization. A written report of the experiences is required. Prerequisite: senior standing and program consent.

Medical Technology

The medical technologist's role in the health care team is to accurately and precisely perform laboratory procedures in order to aid in the prevention, diagnosis and treatment of diseases. Most medical technologists are employed in medical laboratories in settings such as hospitals, clinics, reference labs and physicians' offices. The medical technologist also has the skills necessary for employment in related areas such as laboratory and pharmaceutical sales; quality assurance in industries such as food, beverage, chemicals, milling and plastics; office laboratory consulting; toxicology; research; and veterinary medicine.

Bachelor of Science in Medical Technology

The Bachelor of Science program in medical technology, requiring a total of 133 hours, includes 73 hours of premedical technology curriculum in the basic sciences, social sciences, humanities and communication. The University-based program includes structured lecture and laboratory experiences in the University's student clinical laboratory as well as in the program's affiliated laboratories: St. Joseph Medical Center, HCA Wesley Medical Center, the Wichita Clinic, and the Veterans Administration Medical Center, Wichita; Hutchinson Hospital Corporation, Hutchinson; Hertlerz Clinic, Halstead; Central Kansas Medical Center, Great Bend; Salina Regional Medical Center, Salina; and St. Catherine Hospital,
Garden City. Upon successful completion of the program, students are granted the Bachelor of Science in medical technology and are eligible to take several national certification examinations.

Preprofessional Curriculum

Course  
Basic Skills  
Engl. 101 and 102, College English I and II  
Comm. 111, Public Speaking  
Math. 111, College Algebra  

Division A, Humanities and Fine Arts 9*  
Nine hours in at least three different departments  

Division B, Social and Behavioral Sciences  
Psy. 111Q, General Psychology  
Electives  

Division C, Natural Sciences and Mathematics  
Biol. 203Q, Organismal Biology  
Biol. 204, Cellular Biology  
Biol. 223, Anatomy/Physiology  
Biol. 330, General Microbiology  
Chem. 111Q, General Chemistry**  
Chem. 112Q, General and Inorganic Chemistry**  
Course coverage in organic chemistry (Chem. 531, five hours, or Chem. 533 and 534, five hours)  
Chem. 561, Introduction to Biochemistry, or HS 400, Introduction to Pathophysiology  
Med. T. 405Q, Medical Immunology  
Electives from areas of health science, biological sciences, chemistry, physics, mathematics or others as approved by the Medical Technology program (including four hours of "C" and/or "Q" courses)  

*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 123Q-124Q, General and Analytical Chemistry (10 hours) if prerequisites are met. Check with adviser.

Admission to Professional Curriculum

Applications should be submitted to the Medical Technology program by May 1 for fall entry, October 1 for spring entry and March 1 for summer entry.

To qualify as a candidate for admission to the professional phase the student must:

1. Be admitted to 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 2.500  
6. Complete professional goal statement.

Acceptance into the professional phase of the program is determined by the Medical Technology Admissions Committee.

Professional Curriculum

Course  
Med. T. 400, Special Topics  
Med. T. 406, Foundations of Laboratory Practice  
Med. T. 450 and 451, Clinical Chemistry I and lab  
Med. T. 452, Analysis of Body Fluids  
Med. T. 456 and 457, Clinical Chemistry II and lab  
Med. T. 459, Applied Clinical Chemistry  
Med. T. 460 and 461, Hematology I and lab  
Med. T. 462, Hemostasis  
Med. T. 466 and 467, Hematology II and lab  
Med. T. 469, Applied Hematology  
Med. T. 470 and 471, Immunohematology I and lab  
Med. T. 476 and 477, Immunohematology II and lab  
Med. T. 479, Applied Immunohematology  
Med. T. 480 and 483, Clinical Immunology I and lab  
Med. T. 489, Applied Clinical Techniques  
Med. T. 490 and 491, Clinical Microbiology I and lab  
Med. T. 494, Special Topics in Clinical Microbiology  
Med. T. 496 and 497, Clinical Microbiology II and lab  
Med. T. 498, Applied Clinical Microbiology  

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, rubella and rubeola titer, prior to their clinical assignments in the affiliate laboratories.

Lower-Division Courses

160Q. Introduction to the Clinical Laboratory Sciences. (2). 1R, 2L. Division C course/elective. A study of clinical laboratory disciplines, including hematology, immunohematology, chemistry, microbiology, cytology 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. Course is suitable for majors intending careers in clinical laboratories or in health professional or as a consumer.

281. Cooperative Education. (1-3). Provides a field placement that integrates theory with 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 coordinators. 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.

310. Clinical Laboratory Services. (3). 2R, 2L. An overview of the services and information provided by the clinical laboratory. Emphasizes basic procedures and interpretation of data. Prerequisite: Limited to Physician Assistant students in professional program.

Upper-Division Courses

400. Special Topics. (2). A study of the principles and methodologies of laboratory management and supervision and teaching techniques applicable to the clinical laboratory sciences. Prerequisite: program consent.

405Q. Medical Immunology. (3). Division C course/elective. An introduction to the study of immunological concepts as they apply to the study, prevention and causation of the disease process. Prerequisite: Biol. 223.

406. Foundations of Laboratory Practices. (2). An introduction to clinical laboratory skills and instrumentation. Includes laboratory safety, specimen collection and processing, medical terminology and use of the microscope. Prerequisite: program consent.

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: program director's consent.

450. Clinical Chemistry I. (3). The study of basic clinical chemistry encompassing the study and application of clinical chemistry calculations, quality control and the study of colorimetric, spectrophotometric and ultraviolet principles and techniques for the analysis of serum and other body fluids. Prerequisites: Chem. 331 and Biol. 225.

452. Analysis of Body Fluids. (3). 2R; 1L. Includes the study of renal physiology, routine urinalysis and renal function tests. 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.

456. Clinical Chemistry II. (3). Includes advanced instrumentation principles and techniques, acid-base balance, advanced enzymology, endocrinology and toxicology. Emphasizes relationships existing between substances of the body and procedural development and evaluation. Prerequisite: Med. T. 450, 451 or program approval.

457. Clinical Chemistry II Laboratory. (2). 6L. A laboratory course encompassing the application of the principles of technique appropriate to the evaluation of methodology, acid-base balance, advanced enzyme quantification, endocrinology and toxicology. Prerequisite. Med. T. 456, concurrent enrollment or program approval.

459. Applied Clinical Chemistry. (3). Application of clinical chemistry procedures and techniques in the analysis of body fluids in a clinical laboratory setting. Prerequisites: Med. T. 457 and program consent. Offered Cr/NCR only.

460. Hematology I. (2). Emphasizes the theory underlying basic procedures performed in the hematology laboratory and the relationship between these procedures and the diagnosis of disease. Prerequisites: Biol. 223 and program consent.

461. Hematology I Laboratory. (2). 3L. Emphasizes performance of the basic procedures used in the hematology laboratory, including complete blood counts, normal and abnormal differentials and miscellaneous hematology tests. Prerequisite: Med. T. 460 or concurrent enrollment and/or program consent.

462. Hemostasis. (3). 2R; 3L. Examination of the function/dysfunction of the hemostatic mechanisms and associated diagnostic laboratory procedures utilized in evaluation of various hemostatic disorders. Prerequisites: Biol. 223, Med. T. 460 and program consent.

466. Hematology II. (3). Emphasizes the clinical significance of laboratory data and its correlation with pathologic conditions. Material covered includes in-depth discussions of anemias and leukemias. Prerequisites: Med. T. 460, 461 and program consent.

467. Hematology II Laboratory. (1). 3L. Emphasizes special testing procedures used in the hematology laboratory for diagnosis of anemias and various white cell disorders such as leukemia. Prerequisites: Med. T. 466 or concurrent enrollment and program consent.

469. Applied Hematology. (3). Application of the theory and technical skills of hematology in a clinical laboratory. Prerequisites: Med. T. 460, 467 and program consent. Offered Cr/NCR only.

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: Med. T. 405Q or equivalent or instructor's consent.

471. Immunohematology I Laboratory. (1). 3L. A laboratory course in techniques relevant to performance of a blood banking technologist in a donor center and transfusion service. Methodology covered includes blood typing, antibody screening, single antibody identification, compatibility testing, prenatal testing, neonatal testing, Rh immune globulin and quality assurance of immunohematology laboratory procedures. Prerequisite: Med. T. 405Q or equivalent and Med. T. 470 or concurrent enrollment or instructor's consent.

472. Immunohematology II. (2). A problem-solving, theoretical course in blood banking, covering HLA, disputed paternity, forensic testing, antibody identification techniques and resolution of serological incompatibilities encountered in blood types, compatibility testing, hemotherapy, hemolytic disease of the newborn, Rh immune globulin tests and hemolytic anemia workshops. Prerequisite: Med. T. 470 or instructor's consent.

473. Immunohematology II Laboratory. (1). 3L. A laboratory course in techniques relevant to resolution of medical-legal cases, antibody identification and problems encountered in blood testing, compatibility testing, hemotherapy, hemolytic disease of the newborn, Rh immune globulin and hemolytic anemia. Prerequisite: Med. T. 476 or concurrent enrollment or instructor's consent.

474. Applied Immunohematology. (3). Application of the theory and technical skills 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 Cr/NCR only. Prerequisites: Med. T. 467, 477 and program consent.

475. Clinical Immunology I. (1). An introduction to serological diagnosis in the clinical laboratory, including rationale of testing, methodologies, comparison of different methods, interpretation of test results and clinical correlations. Prerequisite: Med. T. 405Q or equivalent or instructor's consent.


478. Clinical Immunology I Laboratory. (1). 3L. A laboratory course in techniques relevant to serological diagnosis of the following conditions: syphilis, acute bacterial infections, streptococcal infections, febrile diseases, mycoplasmal infections, infectious mononucleosis, rheumatoid arthritis and pregnancy. Prerequisite: Med. T. 480 or concurrent enrollment or instructor's consent.

479. Applied Clinical Techniques. (2). Application of theory and techniques of clinical immunology, serology, body fluids and specimen collection in the clinical laboratory. Offered Cr/NCR only. Prerequisites: Med. T. 406, 452, 480, 483 and program consent.

480. Clinical Microbiology I. (3). Basic theory covering (a) procedures for specimen processing in the clinical laboratory; (b) normal flora; (c) morphological, cultural and serological characteristics of common pathogenic bacteria; and (d) basic theory in antimicrobial susceptibility testing techniques. Prerequisites: Biol. 330 and concurrent enrollment in Med. T. 491.

481. Clinical Microbiology I Laboratory. (1). 4L. Basic procedures for the set up and examination of disease processes and identification procedures for the more common pathogenic organisms. Use and interpretation of common antimicrobial susceptibility testing procedures. Runs concurrently with Med. T. 490. Prerequisites: Biol. 330, previous or concurrent enrollment in Med. T. 490 and program consent.

484. Special Topics in Clinical Microbiology. (2). 2R; 2L. The study of the medically important fungi and parasites emphasizing their identification in the clinical laboratory. Discussion of lifecycles and their relation to the infection/disease process and the epidemiology of these organisms. Prerequisites: Biol. 350 and program consent.

485. 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 disease processes and identification procedures for the acid-fast bacteria. Introduction to advanced antimicrobial susceptibility testing techniques. Prerequisites: Med. T. 490, 491, 497 or concurrent enrollment.

486. Clinical Microbiology II Laboratory. (1). 4L. Advanced laboratory techniques in the isolation and identification of nonfermenters, the anaerobic and unusual aerobic organisms. Technics for cultures and identification of acid-fast bacteria. Advanced antimicrobial susceptibility testing techniques. Prerequisites: Med. T. 490 and 491 and concurrent enrollment in Med. T. 496.

488. Applied Clinical Microbiology. (3). Application of theoretical and practical aspects of clinical microbiology in a commercial laboratory and operating hospital laboratory. Offered Cr/NCR only. Prerequisites: Med. T. 496 and 497.

Courses for Graduate/Undergraduate Credit

550. Clinical Endocrinology. (3). Describes endocrine hormone functions and the practical application of modern clinical laboratory methods for the diagnosis of functional hormonal disorders. Open to nonmajors. Prerequisite: Med. T. 322 or equivalent and Chem. 103Q or 111Q or equivalent or instructor's consent. An understanding of biochemistry is recommended.
752. Method Evaluation and Selection. (3).
    Presents an objective, practical approach to the evaluation of laboratory methodologies. This approach incorporates the use of statistical analysis evaluation of technology and clinical application. Prerequisites: Med. T. 459, 469, 479 and 498, or equivalent, HS 705 or instructor's consent.

760. Hematologic Neoplasms. (3). 3R. Deals with the etiology, pathophysiology and morphology of hematologic neoplasms and the health care practitioners' interactions with persons with those disorders.

765. Advanced Clinical Hemostasis. (3). Advanced studies in the mechanisms of hemostasis, pathophysiological changes that can occur in the hemostatic mechanism and the laboratory evaluation of those changes. Prerequisite: Med. T. 462 or instructor's consent.

775. Advanced Clinical Pathophysiology. (3). Advanced studies in the mechanisms of the disease process and pathophysiological changes that can occur in various pathophysiological states. Prerequisites: HS 400 or 15 hours of biology or instructor's consent.

780. Issues in Immunohematology. (3). 3R. In-depth analysis of current issues in a modern transfusion service emphasizing responding to changes in patient care through application in technology, research and supervision. Prerequisites: Med. T. 479 and HS 701 or instructor's consent.

790. Epidemiology and Infection Control. (3). 3R. A study of the expanding role of hospital personnel in the performance of hospital epidemiology and infection control. Addresses basic epidemiological principles, basic considerations of hospital infections including investigations and surveillance, potential problem areas within the hospital environment, the role of the hospital laboratory and possible endemic and epidemic infections. Prerequisite: course in medical microbiology or instructor's consent.

800. Seminar in Laboratory Sciences, (1). Discusses recent issues and advances in the field of clinical laboratory science, including the areas of microbiology, chemistry, hematology, immunology and immunochemistry. Students are responsible for assigned topics, using current journal articles as resource material. Prerequisite: program consent.

890. Thesis. (1-3). Repeatable to a maximum of six hours. Prerequisite: consent of thesis adviser.

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The School of Nursing offers the Bachelor of Science in Nursing program. It 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.

Students are admitted to the School of Nursing at the junior year after completing 60-64 hours of course work. Persons interested in the Bachelor of Science in Nursing may direct inquiries to: Chairperson, School of Nursing, Wichita State University, Wichita, Kansas 67260-0041.

Preprofessional Curriculum

Students applying for admission to the School of Nursing must have completed the following courses. Students should consider taking 16 to 18 hours per semester or attending Summer Session.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td><strong>Basic Skills</strong></td>
<td></td>
</tr>
<tr>
<td>Math. 111, 112 or 211</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td><strong>Humanities and Fine Arts</strong></td>
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<tr>
<td>Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>Phil. 100G, The Meaning of Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Courses in humanities other than philosophy</td>
<td>3</td>
</tr>
<tr>
<td><strong>Social and Behavioral Sciences</strong></td>
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<tr>
<td>Psy. 111Q, General Psychology</td>
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<tr>
<td>Psy. 334Q, Developmental Psychology</td>
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<tr>
<td>Soc. 111Q, Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Natural Sciences and Mathematics</strong></td>
<td></td>
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<tr>
<td>Biol. 120Q, Introduction to Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>Biol. 223, Human Anatomy and Physiology</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 103Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td><strong>Other Prerequisites</strong></td>
<td></td>
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<tr>
<td>HS 301, Clinical Pharmacology</td>
<td></td>
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<tr>
<td>HS 331Q, Principles of Dietetics and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>Statistics with approval</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>7-8</td>
</tr>
</tbody>
</table>

Admission to School of Nursing

Students who have satisfactorily completed two semesters of lower-division courses may request an application form from the School of Nursing. Application forms for fall semester admission are required by February 1; for spring semester admission, by September 1. To qualify as a candidate for admission to the School of Nursing, students must:

1. Be enrolled in, or admitted to, Wichita State University
2. Have completed, or have plans to complete, the prerequisite 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 School of Nursing are required for the Bachelor of Science in Nursing. A total of 124 hours of University credit is required for graduation.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td></td>
</tr>
<tr>
<td>Nurs. 327, Nursing as a Practice Discipline</td>
<td>2</td>
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<tr>
<td>Nurs. 330, Technologies Related to the Adult</td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 332Q, Health Promotion and Self-Care</td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 334, Dimensions of Professional Nursing</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 336, Design of Nursing Systems</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 340, Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td></td>
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<tr>
<td>Nurs. 342, Assessment of Children and Aging Adults (for RNs only)</td>
<td>1</td>
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<tr>
<td>Nurs. 347, Nursing Systems: Organic Disorders</td>
<td>5</td>
</tr>
<tr>
<td>Nurs. 351, Nursing Systems: Behavioral Disorders</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 352, Nursing Practice I</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 354, Nursing Practice II</td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 400, Introduction to Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 460, Technologies and Assessments Related to Young Families</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 464, Nursing Systems: Aging Families</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 465, Nursing Systems: Young Families</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 466, Nursing Practice III</td>
<td>3</td>
</tr>
<tr>
<td><strong>Phase III</strong></td>
<td></td>
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<tr>
<td>Nurs. 467, Research in Nursing</td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 472, Nursing Practice IV</td>
<td>6</td>
</tr>
<tr>
<td>Nurs. 473, Senior Seminar</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 478, Nursing Systems: Large Groups</td>
<td>5</td>
</tr>
</tbody>
</table>
Electives
Upper-division elective courses............. 3
Upper-division philosophy/ethics........... 3
Issues and Perspectives in Natural Sciences and Mathematics............................ 3

RN to BSN Progression Plan
Registered nurse students who have met admission requirements may obtain information from the School of Nursing regarding enrollment in the transition course, NURS. 334, Dimensions of Professional Nursing, and Advanced Placement by which they may validate nursing credits at the upper-division level. Prerequisite courses............. 61
NURS. 334, Dimensions of Professional Nursing*........... 3
NURS. 340, 342, Health Assessment........... 3
NURS. 467, Research in Nursing............. 2
NURS. 472, 473, Leadership and Senior Seminar..................... 9
NURS. 475, Clinical Concepts of Adult Disorders.................. 3
NURS. 477, Theories Related to Nursing Practice.................. 3
NURS. 478, Community Health Nursing.. 5
NURS. 791K, Computers in Nursing........... 3
Electives........................................ 6
Philosophy (upper-division).................. 3
Total 124

Other Requirements
Uniforms are required for all clinical laboratory experiences. Students are required to provide their own transportation to and from health care agencies used for these experiences. Students are required to purchase professional liability insurance in the amount of $1 million per single claim/$3 million aggregate per year. The insurance must be renewed annually. Students must 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 School of Nursing.

Upper-Division Courses
327. Nursing as a Practice Discipline. (2). An introduction to 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 and nursing student, and nursing as a practice discipline. Prerequisite: admission to the school of nursing or school consent.

330. Technologies Related to the Adult. (2).
6L. Develops psychomotor and interpersonal skills used in implementation of nursing care for the adult. Emphasizes the scientific rationale for performance of technologies in a humane manner. Prerequisite: admission to the school of nursing.

332Q. Health Promotion and Self-Care. (2).
Division C course/elective. Studies self-care (health) practices and health state of individuals within ranges of wellness. Emphasizes the determinants which influence how universal self-care requisites are met. Open to nonnursing majors. Prerequisites: Engl. 101 and 102.

334. Dimensions of Professional Nursing. (3).
Introduces registered nurse students to the study of nursing as a practice discipline and professional nursing roles. Emphasizes the self-care concept of nursing and its use in professional practice, education and scholarship. Prerequisite: admission to school or school consent.

The study of knowledge, attitudes and skills for the design, implementation and evaluation of nursing systems for individuals. Studies methods of assistance and types of nursing systems. Prerequisite: admission to school. Prerequisites or corequisites: enrollment in NURS. 327 and 332Q.

340. Health Assessment. (2). 3L. Develops skills in performing biopsychosocial health assessments of adults. Emphasizes the assessment of health status through differentiating between variations of normal and abnormal. Includes lecture, demonstration and supervised practice. Open to RN students. Prerequisite: completion of Phase I courses.

342. Assessment of Children and Aging Adults. (1). 3L. Develops skills in performing biopsychosocial health assessments of children and aging adults. Emphasizes assessment of health status through differentiating between variations of normal and abnormal. Designed to be completed by independent study. Prerequisite: open to RN students only. NURS. 340 may be taken concurrently or as a prerequisite.

Studies the design and control of nursing systems related to 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 352.

350. Workshops in Nursing. (1-4). Intensive study of special topics related to nursing practice, education or research. Open to nonmajors.

351. Nursing Systems: Behavioral Disorders. (3).
Studies design and control of nursing systems for individuals with behavioral disorders focusing on educative-supportive and partly and wholly compensatory nursing systems. Prerequisites: Phase I nursing courses. Corequisites: NURS. 354.

352. Nursing Practice I. (3). 9L. Clinical course; provides the student opportunity to design and control nursing care 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.

352H. Nursing Practice I, Honors. (3). 9L. Clinical course; provides the student opportunity to design and control nursing care 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. Major emphasis is the expanded development of the clinical nursing role. Prerequisites: Phase I nursing courses, GPA of 3.250 and instructor's approval.


400. Introduction to Pathophysiology. (3). Cross-listed as HIS 400. For professional upper-division students enrolled in the College of Health Professions. Focuses on the essential mechanisms of disordered functions which produce common diseases. Discusses some common diseases, but as examples of the basic processes covered, not as a part of an exhaustive inventory. Purpose is to present the health professional with accessible, usable and practical information he/she can broadly and quickly apply in his/her clinical or laboratory experience or use 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.

425-427. Special Projects in Nursing. (1-6). Elective. Individual study of selected topics, didactic and/or clinical designed to enhance the student's knowledge base and competencies in nursing practice. Repeatable. Prerequisite: school consent.

432. Educatve-Supportive Nursing Systems. (3). 2R; 9L. Elective. Lecture/clinical course; focuses on the planning and implementation of patient education. The nurse's role in patient education includes assisting the patients in decision-making, behavior control and acquiring knowledge and skills. Major emphasis is the development of the nurse's ability to use teaching methods in clinical nursing situations. Builds upon the knowledge and clinical experiences of identified prerequisite courses. Purpose is to enhance the 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.

434. Perioperative Clinical Management: Workstudy. (5). 2R; 9L. Elective. Lecture/clin-

461. Senior Seminar. (3). Focuses on the leadership and management role of the nurse and the coordination of nursing care for groups of patients. Experiences ethico-legal, economic, political, and other professional issues related to nursing practice. Prerequisites: Phase II courses. Corequisites: Nurs. 472 or for generic students.

475. Clinical Concepts of Adult Disorders. (3). Studies clinical concepts of adult disorders. Examines research, theories, and the application of research findings to clinical practice as they relate to biophysical and psychosocial disorders of adults. Prerequisites: Phase II courses, concurrent enrollment in Nurs. 472, 2.50 GPA, and school consent.

477. Theories Related to Nursing Practice. (3). Explores the role of theory in nursing. Examines foundational theories to nursing practice. Analyze and synthesize processes for integrating these theories in practice. Prerequisites: Admission to School of Nursing.

482. Biopsychosocial Concepts. (3). Prerequisite: Admission to School of Nursing. Focuses on the development of biopsychosocial concepts in clinical practice. Prerequisites: Phase I and II courses.


487. Clinical Concepts of Large Groups. (3). 9L. The study of nursing to large groups of people with multiple complex health problems. Experiences community health problems and practices design and control of nursing systems for large groups of people. Prerequisites: Phase I and II courses.

493H. Senior Seminar Honors. (3). Focuses on the leadership and management role of the nurse and the coordination of nursing care for groups of patients. Experiences ethico-legal, economic, political, and other professional issues related to nursing practice. An in-depth study of a concept related to leadership and/or management theories. Prerequisites: Phase II courses, concurrent enrollment in Nurs. 472, 2.50 GPA, and school consent.

478. Nursing Systems: Large Groups. (3). 2R; 9L. The study of nursing to large groups of people with multiple complex health problems. Assesses community health problems and practices design and control of nursing systems for large groups of people. Prerequisites: Phase I and II courses.

487H. Nursing Systems for Large Groups. (3). 9L. A clinical honors course for the study of nursing for large groups with potential multiple complex health problems. Focus is health promotion throughout the life span. Major emphasis is the development of nursing agency in clinical nursing situations. Prerequisites: Phase II courses and school consent. Corequisites: Nurs. 478.

481. Cooperative Education Field Study. (1-6). A field placement which integrates course work with a planned and supervised professional experience designed to supplement and enhance the student's academic program. Individualized programs may be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 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.

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: school consent.

530. Concepts of Loss. (3). Elective. Strategies for helping clients and families cope with the complex process of loss, including death, divorce, and illness. Prerequisite: school consent.

543. Women and Health Care. (3). Cross-listed as Wom. S. 543. Examines the role of health care delivery systems in health promotion and disease prevention. Prerequisites: Admission to School of Nursing.

570. Assessment of Pediatric and Adolescent Clients. (3). 2R; 9L. A theoretical and clinical laboratory experience; students focus on the assessment of pediatric and adolescent clients. Prerequisites: Admission to School of Nursing.

701. Advanced Health Assessment. (2). Designed to assist students to refine history taking, physical assessment and psychosocial assessment skills. Content focuses on assessment of individuals of all age groups. Emphasis is on developing assessment skills and communication in the assessment process. Prerequisite: Admission to School of Nursing.

702. Advanced Health Assessment Laboratory. (1). Companion laboratory course for Nurs. 701. Apply history taking and assessment skills within a laboratory setting. Emphasis is on developing assessment skills and communication in the assessment process. Prerequisite: Admission to School of Nursing.

705. Scientific Inquiry I. (3). Emphasizes the role of theory in scientific inquiry in nursing. The evolution of nursing theory is traced and perspectives for the future are explored. Major emphasis is placed on the role of research, practice and research are addressed. Selected models/frameworks relevant for nursing are analyzed.

704. Health Maintenance of the School Age Child. (3). 2R; 9L. Examines and applies major theories of health care. Examines self-care practices of young families and studies ways to promote positive health practices. Open to nonnursing majors.

707. Scientific Inquiry II. (3). Builds on Scientific Inquiry I. Discusses the research process in relationship to concepts, frameworks/theories. Various methodological approaches to research are explored. Consideration is given to current issues in nursing research. The
Research process is demonstrated in a preliminary proposal related to student's practice area.

706. Organization and Management of the School-Health Program. (3). 2R; 3L. Examines and applies concepts of organization and management to the school-health delivery system. Open to RN and graduate students.

708. School Nurse Practicum. (2). 6L. An intensive clinical experience; students analyze, design, implement, and evaluate nursing systems and programs to promote the health of individuals in the school-health delivery system and the broader community. Open to RN and graduate students.

709. Health Problems in Family Violence. (3). Develops understanding of human responses to family violence across the lifespan, including spouse abuse, child witnesses, and elder abuse. Identifies physical, emotional, or social health problems and formulates strategies for primary, secondary, or tertiary prevention based on a conceptual framework. Prerequisite: graduate level or instructor consent.

711. Issues in Nursing. (3). Analyzes various issues in professional nursing. Focuses on issues ranging from concerns within the local practice setting to national policy issues. Examines theories uniquely suited to policy formation in health care systems. Prerequisite: admission to Graduate School.

715. Advanced Nursing Practice: Roles and Issues. (3). Designed for student preparation for advanced practice. Historical development of advanced practice role, the ethical, legal, political, and economic issues of such a role and current trends and future directions are discussed. Focuses on issues ranging from concerns within the local practice setting to national policy issues related to advanced nursing practice.

721. Epidemiology: A Data-Based Method for Decision-Makers. (3). Introduces the basic epidemiologic approach used to assess and make decisions about the health of the community. Prepares students to use this methodology in the planning, delivery, and evaluation of health services as they work with consumers and providers of health care and public services in the community. Prerequisite: graduate standing or instructor's consent. Nurs. 841 is prerequisite for community only.

723. Diabetes Mellitus Nursing. (3). Exploration of clinical theories, identifies and studies appropriate nursing systems for clients with diabetes mellitus. Emphasizes attaining and maintaining optimal levels of functioning and the psychological adjustment of the client and family to a potentially devastating disease.

734. Diabetes Mellitus Nursing Practicum. (3). An intensive clinical experience; student selects studies, designs, and implements nursing systems for individuals or groups in the area of diabetes mellitus nursing management. A weekly one hour seminar accompanies the practicum.

750. Workshops in Nursing. (1-4). An opportu

757. Clinical Teaching Strategies. (3). An exploration of alternative teaching strategies for the clinical educator to accommodate the changing health care scene. Discusses clinical teaching methods. A clinical rotation plan with accompanying clinical evaluation tool is constructed after the student, subject and setting are delineated. Investigates roles of the educator in teaching clinically.

791. Special Studies in Nursing. (1-6). Students engage in extensive study of particular content and skills directly or indirectly related to nursing practice. Repeatable. Prerequisites: admission to Graduate School and school consent.

793. Advanced Pathophysiology. (3). Explores in-depth scientific knowledge base relevant to selected pathophysiologic concepts, including those diseases confronted in primary care. Provides the basis for the foundation of clinical decisions related to diagnostic tests and initiation of therapeutic regimens. Age-specific and development-related alterations are correlated with clinical diagnosis and management. Application is made through age-appropriate examples. Prerequisite: graduate level or instructor consent.

795. Applied Drug Therapy. (3). Discusses the clinical application of specific categories of drug, commonly encountered in comprehensive care settings. Explains the use of protocols, pre-licensing writing, the ethical/legal and economic issues surrounding the advanced nurse's role in prescribing and monitoring pharmacologic therapies in the ambulatory setting. Discuss factors such as age appropriate content related to pharmacokinetics, dosages, expected outcomes and side effects of the drugs. Address first line versus second line drugs, alternate drugs, drug interactions, adjusting drug dosages, patient education and compliance issues related to drug therapy. Explore the nurse's role and responsibility related to data collection, problem identification and consultation with the physician. Application is made through age-appropriate case studies. Prerequisite: admission to graduate school, Nurs. 701, 793 or instructor's consent.

796. Nursing Practicum in Special Settings. (1-6). Directed practice in various settings, including clinical specialties, nursing administration, nursing education and consultation. Student plans, in collaboration with major advanced practice preceptors, individualized criteria for the experience. Prerequisites: admission to Graduate School and school consent.

799. Directed Readings in Nursing. (1-2). Student engages in critical search of the literature in areas related to the profession and practice of nursing. Prerequisites: admission to Graduate School and school consent.

Courses for Graduate Students Only

804. Clinical Management I: Health Promotion. (3). Concentrated clinical practicum in a primary care setting that addresses individuals and families throughout the lifespan within the context of the community. Theory and research used in clinical settings. Health promotion, maintenance, and prevention interventions emphasized. Prerequisites: Nurs. 701, 791A, 791B, admission to Nurse Practitioner specialization, concurrent or subsequent to Nurs. 805.

805. Primary Care I: Health Promotion Throughout the Lifespan. (4). Focuses on the wellness of individuals and families through the lifespan seeking to maintain or improve health and prevent illness. Interventions reflect preventive frameworks and research that provide an understanding of health and lifestyle behaviors. Prerequisites: FNP students—Nurs. 701, 702; corequisite: Nurs. 804. CNS majors—Completion of core courses.

808. Clinical Nurse Specialist Practicum. (3). Second of a two-course series for the student preparing for the clinical specialist role. Intensive practicum experience; the student works with a clinical nurse specialist preceptor in a selected clinical setting. Emphasizes role development and analysis of strategies to improve nursing practice. Prerequisites: Nurs. 807 (or concurrent enrollment).

809. Primary Care II: Management of Common Health Problems. (4). Addresses areas germane to people across the lifespan, especially in rural populations. Focus on potential risks of specific diseases, management of common acute syndromes, acute problems and chronic conditions. Underlying concepts related to community, pathophysiology and changes in health care status are applied. Lecture, discussion, seminar and clinical applications constitute major teaching methods. Development of plans for management, including collaborative, therapeutic protocols are presented. Prerequisite: Graduate core courses and previously required courses in Family Nurse Practitioner concentration—Nurs. 700, 701, 804 and 805. Corequisite: Nurs. 810.


811. Foundations of Nursing Administration. (3). Assists the student in acquiring theoretical knowledge of organizations. Coniders current issues and research in nursing administration and impact on nursing practice. Prerequisite: school consent prior to registration. Prerequisites or corequisites: Nurs. 703, 705 and 711.

812. Nursing Administration Practicum. (3). Practicum in a nursing administration setting; student, under professional guidance, becomes directly involved. A seminar accompanies the field experience. Types of experience may include roles in nursing education or service, mid-level nursing administration, staff development or community health. May be repeated twice. Prerequisite: Nurs. 811 or 827 or concurrent enrollment.
813. Foundations of Nursing Education. (3). Assists the student to explore theoretical and practical aspects to curriculum development and teaching of nursing in higher education and continuing education. Prerequisite: school consent. Prerequisites or corequisites: Nurs. 703, 705 and 711.

814. Nursing Education Practicum. (3 or 6). Student, under professional guidance becomes directly involved in clinical and classroom teaching, curriculum development and participation in other faculty functions in higher education and continuing education. A seminar accompanies the field experience. Prerequisites: school consent and Nurs. 813.

815. Primary Care III. The Childbearing Family. (1). Focuses on care of the childbearing family who is at low risk for complications. Addresses health promotion and maintenance of the childbearing family during the reproductive years, pregnancy, postpartum, and the infant's first year. Prerequisite: graduate core and previous courses required in the Family Nurse Practitioner Specialization track. Concurrent enrollment in Nurs. 815, 847, and 848.

816. Clinical Management III. The Childbearing Family. (2). Application of knowledge to care for the childbearing family at low risk for complications. Students focus on promoting and maintaining health of the childbearing family during the reproductive years, pregnancy, postpartum, and the infant's first year. Prerequisite: graduate core and previous courses required in the Family Nurse Practitioner Specialization track. Concurrent enrollment in Nurs. 815, 847, and 848.

817. Health Care Information Systems. (3). Examines information systems as they relate to health care. Information systems in clinical management, administration, education and research are analyzed. Emphasizes issues surrounding information systems and hands-on experience with selected health care information management exercises. Prerequisite: DS 874.

818. Health Care Information Systems Practicum. (3). Provides an individualized opportunity to apply the concepts/theories of information systems to a health care setting. Projects include analyzing existing information programs, identifying applications for automation and undertaking small-scale development efforts. Prerequisites: DS 874, 884 and Nurs. 817.

819. Foundations of Psychiatric Mental Health Nursing. (3). Evaluates major theories, clinical concepts and current research in psychiatric/mental health in relation to formulating a conceptual model for nursing practice. Prerequisites: Nurs. 703, 705 and 711.

821. Thesis. (1-6). Graded S/U only. Student, in conjunction with the academic adviser and a three-member thesis committee, designs and conducts a formal research project. Prerequisites: admission to Graduate School and school consent prior to registration.

822. Psychiatric/Mental Health Nursing: Practicum I. (3). Intensive clinical experience; student plans, implements and evaluates nurse-therapist strategies with individual clients/patients. A seminar accompanies the practicum. Prerequisite or corequisite: Nurs. 819.

823. Graduate Project: Alternative to Thesis. (1-3). Graded S/U only. An opportunity to develop and pursue a scholarly project other than a thesis. This may take the form of a position paper, historical study, a philosophical paper or other type project developed in conjunction with the student's faculty adviser. Prerequisites: admission to Graduate School and school consent.

825. Independent Study. (1-6). Provides opportunity for the student to develop, in collaboration with a school faculty member, objectives and protocol for independent work related to the practice of nursing. Prerequisites: admission to Graduate School and school consent.

827. Resource Management in Nursing. (3). Focuses on the assessment of human and material resources and informational systems needed to manage nursing care delivery. Emphasizes Nursing Personnel Management, patient classification systems, cost out of nursing services, strategic planning and marketing. Prerequisites: Nurs. 703, 705 and 711.

829. Parent-Child Nursing: The Individual as the Client. (3). Provides the foundation for all courses in the child-clinical concentration. Seminars enable students to investigate major theories, clinical concepts, research and political/legal/ethic issues related to parent-child nursing with focus on individual client. Prerequisites: Nurs. 703, 705, and 711.

831. Clinical Concepts and Outcomes of Care. (3). Examines major concepts, theories, and related problems that are important to advanced clinical nursing practice. Areas studied include health status of the population, family theories, developmental disabilities throughout the life span, pain, sleep, stress, and crisis theories. Research and documentation of clinical outcomes will be evaluated. Prerequisites: Nurs. 703, 705, 711.

832. Parent-Child Nursing: Practicum I. (3). Intensive clinical experience; student focuses on the process of systematic assessment of individuals. Prerequisites: Nurs. 703, 705, 711; Nurs. 829 may be concurrent.

833. Adult Nursing I. (3). Examines clinical concepts and issues related to the maintenance of optimal health status of adults. Emphasizes assessment, measurement and nursing interventions related to these concepts. Prerequisites: Nurs. 703, 705 and 711.

834. Adult Nursing Practicum. (3 or 6). An intensive clinical experience; student designs, implements and evaluates nursing care for adults. Selects specialized areas of study; 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 part of the practicum. Prerequisites: Nurs. 703, 705, 711 or instructor's consent; Nurs. 833 or 839 may be concurrent.

835. Nursing the Family as the Client. (3). Focuses on nursing the family as client. Seminars enable students to investigate major theories, clinical concepts, research, and political/legal/ethical issues related to nursing of the family as the client. Prerequisites: Nurs. 703, 705, 711, 829, and 832.

836. Nursing of the Family: Practicum. (3). An intensive clinical experience; student analyzes, designs, implements, and evaluates nursing systems for individuals and groups within a family system. Prerequisites: Nurs. 703, 705, 711, 829, and 832; Nurs. 835 may be concurrent.

837. Perspectives in Gerontological Nursing. (3). Emphasizes the synthesis of concepts and theories into a functional theoretical framework of gerontological nursing. This basis is utilized to identify health problems of older adults and to plan appropriate preventive, rehabilitative or restorative approaches to these problems. Attention on 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.

839. Adult Nursing II. (3). Examines clinical concepts and issues related to major disruptions in the health status of adults. Emphasizes assessment, measurement, and interventions related to these concepts. Prerequisites: Nurs. 703, 705 and 711.

841. Foundation of Community Health Nursing. (3). As the health care system broadens its base to community settings, an appraisal of historical development, trends and issues related to community health nursing is investigated. Analyzes conceptual models and theories related to nursing practice and research in the community. Prerequisite: Nurs. 703, 705, 711.

843. Perspectives in Psychiatric/Mental Health Nursing. (3). A critical examination of the delivery of mental health nursing. Emphasizes the role of the psychiatric mental health nurse in selected modalities. Analyzes the effect of historical, social, political, economic and ethical-legal factors. Prerequisite: Nurs. 819.


845. Seminar in Nursing Administration. (3). An in-depth study and analysis of the roles of the nurse administrator in contemporary hospital settings. Discusses special problems, current topics and issues in nursing administration. Prerequisites: Nurs. 811 or 827 and at least 3 hours of Nurs. 812.

847. Primary Health Care IV: Management of Urgent Health Problems. (2). Focuses on the nursing assessment, diagnosis, and management of urgent health problems for individuals and families throughout the life span. Includes urgent health problems such as trauma, poisoning, sudden airway obstructions, cardiac arrest, stroke, thermal and childbirth emer-
agencies, and psychosocial crises. Current research data used to analyze treatment strategies. Protocols for assessment, treatment, and referrals reviewed. Prerequisite: Complete graduate core and previous courses required in the Family Nurse Practitioner Specialization tract. Concurrent enrollment in Nurs. 815, 816, and 848.

848. Clinical Management IV: Primary Health Care Practicum. (4). Concentrated clinical practicum in a primary health care setting treating all age groups. Students synthesize concepts and principles from previous classes and clinical experiences. Theoretical and research content applied to common and urgent health problems. Prerequisite: Complete graduate core and previous courses required in the Family Nurse Practitioner Specialization tract. Concurrent enrollment in Nurs. 815, 816, and 847.

849. Family Nurse Practitioner Preceptorship. (6). An intensive clinical experience that serves as the final course for the family nurse practitioner concentration. Students, working one-to-one with an experienced preceptor, provide primary health care for clients in an ambulatory clinic setting. Emphasis is placed on application of knowledge and skills learned in previous courses to provide primary care to clients across the lifespan. A seminar is part of the course. Prerequisites: All previous required courses in the FNP concentration.

851. Clinical Data Management. (3). Management of clinical data and its relationship to advanced nursing practice. Existing data from clinical practice settings identified and analyzed for presentation both verbally and in report form. Emphasis placed on using existing data both to determine health care outcomes and to facilitate delivery of care. Communication of findings will occur. Prerequisites: Completion of core courses and at least 6 hours of clinical concentration. Computer literacy is an expectation.

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: CI 428, Social and Cultural Foundations of Education (two hours), or CI 701, Foundations of Education (three hours); CI 601, Introduction to Exceptional Child (three hours); and CI 490 or 890, Independent Study (one hour).

In addition, students must take courses in the School of Nursing: Nurs. 700, Assessment of Pediatric and Adolescent Clients (three hours), or an equivalent course determined by the School 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.

Family Nurse Practitioner
A family nurse practitioner concentration is offered in the graduate program. This concentration emphasizes rural primary health care delivery and includes extensive clinical experiences in rural areas. Certificate and/or Master of Science Degree options are available for the registered nurse with a BSN.

Occupational Therapy Assistant
Associate of Science
Wichita State will offer an associate of science degree in occupational therapy beginning in Summer 1996. Occupational therapy practitioners provide therapy; rehabilitation; diagnostic evaluation; and care and education of individuals who are limited by physical injury or illness, psychosocial dysfunction, development or learning disabilities, or the aging process to maximize independence and maintain health. Occupational therapy uses work, exercise, and play as modalities of treatment with clients. Please contact the Wichita State University College of Health Professions dean's office for additional information about the occupational therapy program.

Physical Therapy Assistant
Associate of Science
Physical therapy assistants work under the supervision of a physical therapist in the delivery of physical therapy services. Their duties include assisting the physical therapist in implementing treatment programs according to the plan of care, educating patients in exercises and activities of daily living, conducting treatments, using special equipment, administering modalities and other treatment procedures, and reporting on the patient's responses.

The Commission on Accreditation of the American Physical Therapy Association accredits physical therapy assistant programs. Wichita State will submit a letter of intent to them, six months after which students may be formally accepted into the program. The commission will complete an on-site review of the program during 1996. Upon completion of the professional program, students receive the Associate of Science (AS) in physical therapy assistant and are eligible to take the state board examination for registration in the state of Kansas.

Admission Requirements
Admission to the program requires that the student:
1. Have a cumulative grade point average of 2.75 in all prerequisite courses.
2. Show evidence of completing the following:

Mathematics and Science
Biology and laboratory or prerequisite to Anatomy ...........................................4-5
Physics without laboratory .........................3
Human Anatomy and Physiology ..................4-5
College Algebra ........................................3

Social Science
Introduction to Sociology ................................3
General Psychology ......................................3

Humanities
Ethics or Introduction to Philosophy ............3
Speech .......................................................3

Basic Skills
College English .......................................3

Please contact the Wichita State University Department of Physical Therapy for additional information.

Application packets will be available in October for consideration for the class to begin the following summer.

Professional Curriculum
The professional curriculum will begin in Summer 1995 and will be 14 months in length. Class size will be 16 in Summer 1995, 24 in Summer 1996, and 32 thereafter. All physical therapy procedure and clinical courses must be taken sequentially. Professional course work taught in the classroom will be offered only during evening hours. Clinical course work is a full-time activity (eight hours per day for three- or six-week periods, 8 a.m.-5 p.m.)

Course Hrs.
Kinesiology and Biomechanics ......................3
Pathophysiology ........................................3
PT Procedures I .........................................4
PT Procedures II ......................................4
PT Procedures III ....................................4
PT Procedures IV ....................................4
PT Procedures V ......................................3
Clinical I ..................................................1
Clinical II ...............................................3
Clinical III ...............................................6
Independent Study .....................................2

Contact the Department of Physical
Therapy for complete course descriptions.

Special Requirements
Students will be required to purchase uniforms and other clinical apparel, professional liability insurance, health insurance coverage, and specified immunizations as well as submit evidence of an annual physical examination while in the program. Students must also be certified in cardiopulmonary resuscitation (CPR) prior to entering the clinical rotations.

Students are expected to provide their own transportation to and from the health care facilities used for clinical experiences. During clinical assignments outside Wichita, students are required to pay all living and travel expenses.

Students are referred to the Department of Physical Therapy Student Handbook for more details on special departmental policies and procedures.

Physical Therapy
Because physical therapy is an entry point into the health care system for many individuals, the Physical Therapy program at Wichita State University develops practitioners who can meet this responsibility and provide leadership inside and outside the profession. The Master of Physical Therapy degree will allow the student to achieve a foundation in liberal arts and sciences as well as gain an education in the profession of physical therapy. Graduates will have the skills and knowledge base necessary to assist them in influencing the quality of physical therapy care, the profession of physical therapy, and health care in the local community and beyond.

Master of Physical Therapy
The program prepares individuals to enter beginning practice as a physical therapist. The graduates are prepared to evaluate neuromuscular, musculoskeletal, cardiopulmonary, sensorimotor, and related functions to determine the degree of muscle strength, motor development, motion, respiratory ventilation, or peripheral circulatory efficiency of individuals. The graduate also has research, administration, and education skills appropriate to the practice of physical therapy. Following referrals from physicians, dentists, or podiatrists, the physical therapist plans and implements appropriate treatment programs for individuals with disabilities. Graduates are prepared to work in all types of work settings. The program requires full-time study for a period of twenty-four consecutive months. Students enter the program in the fall semester only. Applications to the program should be made between September 1 and February 1 for entry in the subsequent fall semester.

Admission Requirements
Admission to the program requires that the student:
1. Have a bachelor's degree from an accredited four-year institution acceptable to the Graduate School;
2. Have a cumulative grade point average of 3.000 in each of the following: in all prerequisite courses; in the last 60 hours of undergraduate course work; and in all required math and science courses;
3. Show evidence of completing the following:
   Biology—two semesters of introductory biology (which would lead to a biology major) with a laboratory
   Anatomy and Physiology—8-10 semester hours
   College Chemistry—two semesters with laboratory
   College Physics—two semesters with laboratory
   English Composition—two semesters
   Computers—one semester
   Applications course or the equivalent
   Speech—one semester
   Mathematics—college trigonometry or equivalent
   Statistics—one semester
   Social Sciences—psychology, sociology, plus an additional 12 hours in social science
   Humanities—ethics, plus an additional 12 hours in humanities
   4. Twenty hours of documented observational experience.

*No more than six hours in any area

To be reviewed for admission, applicants should do the following:
1. Request in writing an application packet from the Physical Therapy program with a fee of $20.
2. Submit the designated Application for Admission and supporting transcripts to the Graduate School.
3. Submit the designated Physical Therapy Application, along with all requested materials to the Physical Therapy program as requested on the application form.

Applications will be reviewed anytime after September 1 for the next fall admission. Applicants will be notified of their admission status by the Graduate School.

Degree Requirements
The student must maintain a 3.000 grade point average and a C or better in each of the following courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>H5 700</td>
<td>Gross Anatomy</td>
<td>6</td>
</tr>
<tr>
<td>PT 705</td>
<td>Clinical Medicine I</td>
<td>4</td>
</tr>
<tr>
<td>PT 710</td>
<td>Principles of Physical Therapy I</td>
<td>5</td>
</tr>
<tr>
<td>PT 712</td>
<td>Research I</td>
<td>1</td>
</tr>
<tr>
<td>PT 715</td>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>PT 726</td>
<td>Clinical Medicine II</td>
<td>2</td>
</tr>
<tr>
<td>PT 730</td>
<td>Principles of Physical Therapy II</td>
<td>5</td>
</tr>
<tr>
<td>PT 735</td>
<td>Physical Therapy Theory Procedures I</td>
<td>4</td>
</tr>
<tr>
<td>PT 800</td>
<td>Clinical Education I</td>
<td>6</td>
</tr>
<tr>
<td>PT 810</td>
<td>Principles of Physical Therapy III</td>
<td>4</td>
</tr>
<tr>
<td>PT 815</td>
<td>Physical Therapy Management I</td>
<td>4</td>
</tr>
<tr>
<td>PT 820</td>
<td>Seminar II</td>
<td>1</td>
</tr>
<tr>
<td>PT 825</td>
<td>Seminar III</td>
<td>1</td>
</tr>
<tr>
<td>PT 835</td>
<td>Physical Therapy Theory and Procedures II</td>
<td>4</td>
</tr>
<tr>
<td>PT 840</td>
<td>Independent Study</td>
<td>1</td>
</tr>
<tr>
<td>PT 850</td>
<td>Clinical Education II</td>
<td>6</td>
</tr>
<tr>
<td>PT 860</td>
<td>Clinical Education III</td>
<td>6</td>
</tr>
<tr>
<td>PT 870</td>
<td>Clinical Education IV</td>
<td>6</td>
</tr>
</tbody>
</table>

Special Requirements
Students will be required to purchase uniforms and other clinical apparel, professional liability insurance, health insur-
ance coverage and specified immunizations as well as submit evidence of an annual physical examination while in the program. Students must also be certified in cardiopulmonary resuscitation (CPR) prior to entering the clinical rotations.

Students are expected to provide their own transportation to and from the health care facilities used for clinical experiences. During clinical assignments outside Wichita, students may be required to pay all living and travel expenses.

Students are referred to the Physical Therapy program Student Handbook for more details on special program policies and procedures.

Upper-Division Course

481. Co-op Education. (1-3). A field placement which integrates coursework with a professional experience designed to complement and enhance the student academic program. Programs must be formulated in consultation with and approved by faculty sponsors and cooperative education coordinators. Students follow one of two patterns: Parallel, enrolling concurrently in a minimum of 6 hours of coursework, 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 other courses. Prerequisite: Successful completion of freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit.

Courses for Graduate/Undergraduate Credit


710. Principles of Physical Therapy I. (5). 3R; 6L. Development of ability to differentiate causes of musculoskeletal problems and development of basic treatment programs using scientific rationale for treatment selection. Prerequisite: program consent.

712. Research I. (1). 1R. Discussion and application of principles of critiquing scientific literature. Prerequisite: program consent.

715. Seminar I. (1). 1R; 5L. Discussion of information from readings and other sources regarding the profession, settings for health care delivery, professionalism, and psychosocial aspects of health care. Prerequisite: program consent.

722. Research II. (1). 1R. Continuation of PT 712; development of the research proposal. Prerequisite: PT 712.

726. Clinical Medicine II. (2). 2R. Survey of medical conditions seen by physical therapists emphasizing causes, effects and treatments. Emphasizes medical model. Coordinated by program. Prerequisite: PT 705.

730. Principles of Physical Therapy II. (5) 3R; 6L. Continuation of PT 710, adding advanced concepts and techniques to differentiate causes of musculoskeletal problems and to develop treatment programs using scientific rationale for selection of programs. Prerequisite: program consent.


790. Selected Topics in Physical Therapy. (1-4). Intensive study of current issues, technology, research, and application of selected topic. Repeatable up to 6 credits. Prerequisite: program consent.

799. Experimental Courses. (1-4). One-time course offerings. Prerequisite: program consent.

Courses for Graduate Students Only

800. Clinical Education I. (6) 40P. Introduction to physical therapy care in varied settings requiring communication and interpersonal relationship skills; application of basic physical therapy procedures; beginning professional socialization; beginning development of a generalist in physical therapy. Prerequisite: program consent.

810. Principles of Physical Therapy III. (4). 2R; 6L. Correlation of previous course materials and the use of scientific rationale to develop physical therapy evaluations and treatment programs for patients with specific orthopedic medical diagnoses. Also discusses prevention of musculoskeletal problems and utilization of appliances. Prerequisite: program consent.

815. Physical Therapy Management I. (3). 3R. Study of payment systems, legal aspects of physical therapy, assurance of quality physical therapy care. Includes peer review, documentation, legal and ethical aspects, fiscal consideration, marketing, communication with the public, private sector and government officials. Prerequisite: program consent.

820. Physical Therapy Management II. (2). 2R. Study of management systems including assessment, planning, organization, control and evaluation methods. Includes personnel management, fiscal considerations, electronic device utilization and management styles. Prerequisite: program consent.

825. Seminar II. (1). 1R; 5L. Discussion of teaching and learning theories as they apply to physical therapy education of patients, students, health professionals, and community. Includes methods of evaluating instruction, content, strategies, and learners. Prerequisite: program consent.

826. Clinical Medicine III. (2). 2R. Continuation of PT 726. Prerequisite: PT 726.

830. Principles of Physical Therapy IV. (3). 2R; 2L. Integration of evaluations, treatment modalities and program planning previously presented in the curriculum to develop and to evaluate specialty services in physical therapy including arthritis, diabetes, burns and obstetrics-gynecology; development of clinical protocols to screen well babies, work situations for injury prevention and children for scoliosis. Prerequisite: program consent.

835. Physical Therapy Theory and Procedures II. (4) 3R; 2L. Development of physical therapy evaluations and treatment programs for cardiopulmonary, neurologic and other long-term rehabilitation patients. Assistive devices, home evaluations and problems with architectural barriers are incorporated into discharge planning. Prerequisite: program consent.

836. Physical Therapy in Pediatrics. (2). Provides supplemental skills for the entry-level physical therapist in the area of pediatrics. Didactic work and clinical exposure is incorporated in the class. Offered as an elective in the physical therapy program. Prerequisite: PT 730.

840. Independent Study. (1). Individual study with objectives developed in collaboration with a departmental faculty member. Repeatable for credit with program consent. Prerequisite: program consent.

845. Seminar III. (1). 1R; 5L. Discussion of information from readings and other sources regarding employment, psychosocial and international aspects of physical therapy. Prerequisite: program consent.

850. Clinical Education II* (6). 40P. First in a series of three courses offering continued development of clinical management of patients in varied clinical settings. Includes managerial aspects of care, teaching and some opportunities for clinical research. Prerequisite: program consent.


870. Clinical Education IV* (6). 40P. Third in a series of three courses offering continued development of clinical management of patients in varied clinical settings. Includes managerial aspects of care, teaching and some opportunities for clinical research. Prerequisite: program consent.

890. Thesis. (1-6). Repeatable to a maximum of six hours. Prerequisites: enrollment in graduate studies and consent of thesis advisor.

*In the series of three clinical courses, students experience four different settings including general and rehabilitation practices and a selected area of specialization not limited to pediatrics, geriatrics, and orthopedics. The order of the settings is flexible. There is an increase in the level of expectation of performance with each clinical course which is guided by the evaluation process.
Physician Assistant

Physician assistants (PAs) are professional members of the health care team who, working with physicians, provide diagnostic and therapeutic patient care in virtually all medical specialties and settings.

PAs take medical histories, perform physical examinations and order laboratory tests. After diagnosing a problem, the PA develops and implements a treatment plan. When appropriate, the PA confers with the supervising physician and other health professionals.

Students successfully completing the 24-month physician assistant professional curriculum who meet all University and college requirements will receive the Bachelor of Science—Physician Assistant degree. 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 (including Kansas) for physician assistant practice. 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 Physician Assistant program maintains the philosophy that persons with varied backgrounds can be successful physician assistant students. Prior health care experience is not required, but is preferred. Interested parties should contact the Physician Assistant program for detailed application information, including time frame for applying, references, and selection criteria. Admission to the program is highly competitive. Requirements must be complied with in complete and accurate detail. The Physician Assistant program curriculum builds on a foundation of liberal arts and sciences.

Course work taken longer than 10 years ago will be subject to program review. Students may be required to repeat certain prerequisite courses.

1. Applicants with any academic degree should consult a member of the program’s faculty to determine if the preprofessional requirements for admission to the program and the Bachelor of Science degree have been met.

2. For any person holding a bachelor’s degree the following are required:
   a. Biol. 203Q (5 hours), Biol. 120Q (4 hours), Biol. 223 (5 hours)
   b. Chem. 111Q (5 hours), Chem. 112Q (5 hours)
   c. Biol. 203Q (5 hours), Biol. 120Q (4 hours), Biol. 223 (5 hours)
   d. A total of 60 semester hours of college credit

Additional academic requirements:
   1. An overall college grade point average of 3.0/4.0
   2. A grade point average of 3.0/4.0 for prerequisite course work
   3. A grade of C or better in all Division C courses
   Health care experience is not required, but is preferred.

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.

Professional Curriculum (all courses are required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives—Nine hours of any “G” or “Q” courses.</td>
<td>5</td>
</tr>
<tr>
<td>(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.)</td>
<td></td>
</tr>
</tbody>
</table>
graduation requirements

students who meet the core requirements specified in the physician assistant curriculum will receive a bachelor of 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. students must provide evidence of a complete physical examination including a tuberculin skin test, MMR immunization, and Hepatitis B or titer prior to clinical assignment.

lower-division course

28.1 cooperative education field study. 1-6.

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 choose one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of coursework 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.

upper-division courses

300. Medical History and Physical Examination. (4). 3R; 2L. Provides the theoretical and practical knowledge that can be utilized to obtain an appropriate medical history and/or conduct a proper physical examination (complete/pertinent). Also focuses on the identification of normal and abnormal physical findings. Practice of methods and techniques learned in the course take place in a faculty-proctored laboratory setting. prerequisites: admission to PA professional program.

302. Patient Counseling (2). Considers the theories and techniques of patient counseling; emphasizes effective communication, basic counseling techniques and basic strategies for therapeutic intervention. Dealing with the philosophies of counseling for a wide range of cognitive and behavioral problems common to the primary care setting. Prerequisites: admission to PA professional program.

316. Assessment and Management of the Integument. (1). Deals with the skin as a major organ. Includes wound healing, burn management, tissue reactivity, cutaneous manifestations of systemic disease, specific diagnostic techniques, and assessment of dermatologic disorders and introduction to dermatologic clinic through case presentations. Prerequisites: admission to PA professional program.

317. Assessment and Management of the Endocrine System. (1). Deals with the endocrine system. Includes diseases of the pituitary gland and hypothalamus, diseases of the thyroid and adrenal glands; diabetes mellitus diagnostic procedures; special diets; endocrine emergencies and the treatment of endocrine diseases. Prerequisite: admission to PA professional program.

320. Assessment and Management of Ophthalmic and Otorhinolaryngologic Problems. (3). Deals with the pathophysiology of the eye, ear, nose, and throat. Special emphasis on etiology, diagnosis and treatment of ophthalmic and otorhinolaryngological (ENT) problems. Includes tumors of the eye, nose, throat, and ear; audiometry and ophthalmic manifestations of systemic diseases. Prerequisite: admission to PA professional program.

322. Assessment and Management of the Cardiopulmonary Systems. (3). Deals with the cardiopulmonary systems. Includes the assessment and management of acute and chronic cardiopulmonary diseases, peripheral vascular disease and emergencies. Appropriate evaluation of roentgenology and studies, EKGs, laboratory and clinical studies; includes pulmonary functions and blood gases as applicable to the primary care setting. Prerequisite: admission to PA professional curriculum.

330. Assessment and Management of the Gastrointestinal System. (3). A core laboratory and clinical course; deals with the gastrointestinal (GI) system. Includes 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 psychic disturbances and demonstration of special diagnostic instruments. Prerequisite: admission to PA professional curriculum.

333. Assessment and Management of Obstetrics and Gynecology. (3). Deals with obstetrics and gynecology. Includes the menstrual cycle, pregnancy, gynecologic diseases, techniques of normal delivery, obstetrical emergencies, family planning and infertility. Prerequisite: admission to PA professional curriculum.

335. Assessment and Management of the Renal and Genitourinary Systems. (3). Deals with the kidneys, ureters, bladder and prostate. Includes electrolyte and fluid balances, hypertension, tumors of the genito-urinary (GU) system, infectious diseases, trauma, calculi and special diagnostic procedures. Examines common venereal diseases emphasizing management, treatment and epidemiology. Prerequisite: admission to PA professional curriculum.

337. Assessment and Management of the Neuro-Musculo-Skeletal Systems. (3). Special emphasis on the recognition, evaluation and management of neuro-musculo-skeletal diseases and injuries in primary care, emergency and inpatient settings. Prerequisite: admission to PA professional curriculum.

340. Clinical Skills I. (3). 1R; 4L. Graded S/U. A combined theory, laboratory and clinical experience; students apply their knowledge to the care of patients. Includes the physical examination emphasizing applied anatomy and physiology basic to understanding the examination with examples of normality and abnormalities; medical terminology, evaluation of patients; patient rapport and professional conduct; Lecture, simulation and clinical application are employed in this course. Prerequisite: admission to PA professional curriculum.

410. Clinical Rotation I. (3). A six-week clinical experience; students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis on orientation to medical practice-setting and obtaining and recording a complete and/or problem-oriented medical history. Students obtain and record complete and/or problem-oriented physical
examination data, become familiar with common diagnostic procedures and are involved in the selection of therapeutic regimens. Students are, at the discretion of the preceptor, included in all aspects of health care services offered at the site. Graded S/U. Prerequisites: admission to PA professional program and faculty approval.

412. Clinical Rotation II. (3). See PA 410. Particular emphasis on obtaining and recording complete and/or problem-oriented physical examination data. Graded S/U.


418. Clinical Rotation IV. (3). See PA 410. Particular emphasis on the selection of appropriate therapeutic regimens and their indications, availability, reliability and limitations. Graded S/U.

419. Clinical Rotation V. (3). See PA 410. Particular emphasis on the art of medicine and gaining the confidence of the patient and family. Graded S/U.

422. Clinical Rotation VI. (3). See PA 410. Particular emphasis on recognizing the signs and symptoms of uncommon illnesses. Graded S/U.

425. Clinical Rotation VII. (3). See PA 410. Particular emphasis on integrating the skills and knowledge obtained in previous rotations, as well as health promotion, disease prevention and patient education. Graded S/U.

430. Clinical Conference I (1). 1R; 2L. Major focus is the synthesis of didactic and clinical education and training as it applies to primary health care delivery. Students integrate didactic, clinical and research activities emphasizing problem solving, critical thinking and practical application. Evaluation is toward self directed analysis by the student to identify clinical weaknesses and strengths. Graded S/U. Prerequisite: student in PA professional program.

432. Clinical Conference II. (3). 1R; 3L. Spring semester only; for clinical physician assistant students. Primary focus on issues affecting the graduate physician assistant, which include legislative issues, professional associations and responsibilities, practice limitations, malpractice issues, etc. Includes review sessions for the National Board Examination utilizing lecture, demonstration and computer-assisted instruction. Prerequisites: admission to PA professional curriculum.

440. Clinical Preceptorship. (6). Eight-week course; 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. Graded S/U.

RT 222, Introductory Clinical Practicum: 4 credits

RT 202, Respiratory Therapy Practicum I: 3 credits

RT 203, Respiratory Therapy Practicum II: 3 credits

RT 310, Respiratory Therapy Practicum III: 5 or 6 credits

RT 325, Cardiopulmonary and Renal Physiology: 3 credits

RT 360, Pulmonary Rehabilitation: 3 credits

RT 426, Cardiopulmonary Disorders and Management: 4 credits

RT 435, Ventilators and Applied Critical Care: 4 credits

RT 436, Ventilators and Applied Critical Care Laboratory: 4 credits

RT 450, Introduction to Neonatal Respiratory Care: 3 credits

HS 301, Clinical Pharmacology: 5 credits

*This course 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 also are required to purchase professional liability insurance. For specific information, please contact your department 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, Wichita State University, Wichita, Kansas 67208-1595.

Lower-Division Courses

101. Overview of Respiratory Therapy: 2 credits. An overview of the profession, the cardiopulmonary system and therapy modalities.

102. Cardiopulmonary Resuscitation: 1 credit. Provides instruction and supervised practice of cardiopulmonary life support plus introduction to basic terminology and principles of circulation and respiration; special emphasis on guidelines for prudent heart living. Graded S/U.

111. Introduction to Respiratory Therapy: 4 credits. Familiarizes students with the history and evolution of respiratory therapy and with the role of the respiratory therapist in the health care community. Also includes the study of medical terminology and the application of basic scientific principles pertinent to respiratory therapy practice. Prerequisite: program consent.

Upper-Division Courses

301. Seminar I: 2 credits. Discussion of program operations. Prerequisite: RT 222.

302. Seminar II: 2 credits. Discussion of advanced skills and techniques involving patients and preparation of case studies. Prerequisite: program consent.


320. Clinical Projects: 1-3 credits. Provides an opportunity for the student on an individual basis to select a topic for independent investigation. Repeatable to six hours.

325. Cardiopulmonary and Renal Physiology: 4 credits. 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. Emphasizes understanding essential mechanisms of normal function; within this context, applies knowledge in interpreting diagnostic studies and in understanding disorders of function. Prerequisite: Biol. 223 or equivalent.

330. Blood Gases: Clinical Application, Instrumentation and Quality Control: 1-3 credits. May be repeated to six hours. Presents blood gases, acid-base theory, clinical application, blood gas analysis and quality control. Emphasizes and demonstrates modern monitoring trends and equipment usage. Prerequisites: college chemistry and human physiology, or program consent.

426. Cardiopulmonary Disorders and Management: 3 credits. A study of the diagnosis, treatment and management of cardiopulmonary disorders. Emphasizes (1) interpretation of diagnostic tests, (2) applying these interpretations to the treatment and management of the disease and (3) understanding essential mechanisms of disorders of function. Uses patient management problems and case study approaches. Prerequisite: RT 222 and 325.


436. Ventilators and Applied Critical Care Laboratory: 1-2 credits. Accompanying RT 435; provides practical experience in a simulated laboratory setting, including basic respiratory and diagnostic skills and techniques used by respiratory care practitioners. Corequisite: RT 212.

440. Cooperative Education Field Study: 1-8 credits. 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 other course. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit.


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.
Fairmount College of Liberal Arts and Sciences

Gerald D. Loper, PhD, Interim Dean
Fairmount College of Liberal Arts and Sciences offers undergraduate majors in the natural sciences, social sciences, and humanities, and programs of professional training. Courses in these disciplines help students develop critical thinking skills, a broad base of learning, and an awareness of civic responsibilities, as well as professional preparation. The College also provides courses in basic skills, as well as general education and other courses required for graduation from other colleges at WSU. These provide students with skills that are intrinsically valuable and often fundamental to professional training and the needs of workplace.

Degrees Offered

Undergraduate

The Bachelor of Arts, Bachelor of Science and Bachelor of General Studies degrees are conferred by Fairmount College of Liberal Arts and Sciences. Each degree requires the completion of a minimum of 124 credit hours, the attainment 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 anthropology, biological sciences, chemistry, communication, communicative disorders and sciences, computer science, classical languages, economics, English, French, geology, German, history, mathematics, minority studies, philosophy, physics, political science, psychology, social work, sociology, Spanish and women's studies. Bachelor degrees in linguistics and religion were phased out beginning in 1987 and American studies was discontinued in 1993; however, students in these programs will be accommodated through emphases within the general studies program or through incorporation in a field major.

The Bachelor of Science is available in administration of justice, biological sciences, chemistry, computer science, geology, gerontology, mathematics and physics.

The Bachelor of General Studies is a nondepartmental degree which requires breadth in distribution of course work and allows for the development of areas of concentration which may be thematically or occupationally related.

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, communication (interdisciplinary), English, gerontology, history, political science, psychology, sociology and Spanish. The Master of Science (MS) may be obtained in biological sciences, chemistry, computer science, 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) degree is offered in chemistry, applied mathematics and psychology—human factors.

For more information, consult the Wichita State University Graduate Bulletin.

Policies

Admission

Students will be admitted to Fairmount College of Liberal Arts and Sciences upon meeting the general admissions requirements for Wichita State University and upon declaring intention to pursue one of the degree programs offered by the college.

Probation and Dismissal Standards

Students are placed on probation whenever their cumulative WSU grade point average falls below 2.000. Probation is removed when the overall WSU grade point average reaches the required 2.000 level. Students continue on probation when they earn a 2.000 or better semester average and their overall WSU grade point average remains below 2.000. If students on probation fail to earn at least a 2.000 semester average, and if their WSU overall grade point average remains below 2.000, they will be dismissed. Students on probation will not be academically dismissed unless they have attempt-

ed at least 12 hours after being placed on probation. When dismissed, students may reenroll only with the permission of the college’s Committee on Admissions and Exceptions.

Application for Graduation

To insure a close identification of each student with his or her department, the faculty of the department of a student’s major or primary area of concentration assist with academic advising. In addition to advising for preregistration and registration, the departmental undergraduate advisor will fill out a graduation plan with each student who has completed 90 credit hours. Completion of this plan provides guidance to the student in meeting graduation requirements.

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 Bachelor of General Studies adviser in the primary department of interest (see Area of Concentration in Section XII below). The plan of study must be approved by the BGS Policy Committee, a subcommittee of the Curriculum and Academic Planning Committee 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 any college department office.

Assessment of Academic Programs

Fairmount College of Liberal Arts and Sciences participates in a university-wide program to assess the effectiveness of all curricula and instruction within the university. Individual departments within the college have established assessment strategies which are shared with their majors. In most cases, assessment activities involving students occur in the final semester of enrollment before the degree is granted.

Cross-Listed Courses

Selected courses in the University cur-
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. Basic skills-The following courses must be completed in the first 48 college hours with a grade of C or above:
   - Engl. 100 or 101 and 102, English Composition
   - Comm. 111, Public Speaking
   - Math. 111 (or higher), College Algebra

2. Upper Division—at least 40 semester hours of credit in courses numbered 300 or above.

3. Residence—at least 30 semester hours of course credit at Wichita State University. At least 24 of the last 30 semester hours or 50 of the last 60 semester hours must be completed at Wichita State.

4. Four-year institution—a minimum of 60 credit hours must be completed in a four-year degree-granting college or university.

5. D Grades—no students are allowed credit toward graduation for D grade work in excess of one-quarter of the total hours.

Fine Arts and Humanities*: Candidates for the BA, BS, and BGS degrees must take 12 hours of courses with the following distribution: 1) one introductory course from a fine arts discipline listed below; 2) one introductory course from TWO different humanities disciplines listed below; plus 3) a further study course from the same discipline as one of the introductory courses or an Issues and Perspectives course in fine arts or humanities. BA and BGS candidates may take an additional three hours to complete the total of 27 required in humanities/fine arts and social sciences. This extra course may be from the major department.

FINE ARTS: art history, dance (history), musicology-composition, theater, other approved discipline for an I&P class.

HUMANITIES: communication (non-basic skills), English (non-basic skills), history, linguistics, modern and classical languages and literature, philosophy, religion, women's studies, other approved discipline for an I&P class.

The Schedule of Courses produced each semester before enrollment outlines specific courses approved in each of the above categories.

II. Literature. All BA, BS, and BGS candidates must complete at least one course in English or foreign language literature. Inclusion of this course should be considered in general education course planning in humanities.

III. American Political System. All BA, BS, and BGS candidates must demonstrate proficiency in the field of the American political system and institutions by passing either History 131Q or 132Q (humanities) or Political Science 121Q (social sciences) or by passing an examination offered each semester by the history and political science departments. Inclusion of one of these three courses should be considered in general education course planning.

IV. Social and Behavioral Sciences*. Candidates for the BA and BGS degrees must take 12 to 15 hours in three different departments from the following distribution: 1) one introductory course from two different social and behavioral science disciplines listed below; plus 2) a further study course from the same discipline as one of the introductory courses or an Issues and Perspectives course in the social and behavioral sciences; 3) one or two additional courses may come from the student's major or from any other elective courses within social sciences departments within the college.

Candidates for the BS degree must take a minimum of three courses (nine hours) following the first two distributions above. Courses within the student's major may not apply to this university general education requirement.

SOCIAL AND BEHAVIORAL SCIENCES (approved for the university general education program): anthropology, economics, geography, minority studies, political science, psychology, sociology, other
approved discipline for an I&P class.

OTHER SOCIAL AND BEHAVIORAL SCIENCES for elective use: administration of justice, gerontology, social work.

The Schedule of Courses produced each semester before enrollment outlines specific courses approved in each of the above categories.

A total of 27 hours must be taken in the fine arts/humanities and social and behavioral sciences disciplines by candidates for the BA and BGS degrees.

V. Natural Sciences and Mathematics. Candidates for the BA, BS, and BGS degrees who have completed at least two years of high school laboratory science classes (exclusive of general and physical science) must take a minimum of nine hours of courses with the following distribution: 1) one introductory course from TWO different natural science disciplines listed below (one of which must be a biological science and the other a physical science); plus 2) a further study course from the same discipline as one of the introductory courses or an Issues and Perspectives course in natural sciences. One of the above courses must include a laboratory experience.

Candidates for the BA, BA, and BGS degrees who have not completed at least two years of high school laboratory science must take 12 hours following the minimum distribution given above. Should a fourth course be necessary to complete the 12 hours, this class may come from any of the elective disciplines indicated below.

NATURAL SCIENCES AND MATHEMATICS: approved for university general education program: biology, chemistry, geology, physics, other approved discipline for an I&P class.

OTHER MATHEMATICS/NATURAL SCIENCES for elective use: anthropology 101Q and 106 (counts as biology); geography 201 and 235 (count as physical science).

The Schedule of Courses produced each semester before enrollment outlines specific courses approved in each of the above categories.

VI. Students must complete at least one and not more than two Issues and Perspectives courses to fulfill university general education program requirements. In addition, courses within the student's major discipline do not count toward university general education program requirements.

VII. Foreign Languages. Candidates for any BA degree and for the BS degrees in administration of justice and gerontology 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.

Language 210Q classes, although approved to count towards humanities requirements in the general education program, will not fulfill a humanities course requirement for Fairmount College of Liberal Arts and Sciences students. Any language course from the 220 or above level will count as general education humanities credit if on the approved list of classes published in the University Catalog.

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.

Students with sufficient high school background in language study to merit placement in a college language class beyond the 111 level may qualify for retroactive credit in language. Please see guidelines for retroactive credit outlined in the Modern and Classical Languages and Literatures departmental section of the Catalog.

Candidates for the BS within the division of natural sciences and mathematics have no foreign language requirement unless it is required by the department.

The BGS also has no foreign language requirement.

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 may be used to satisfy college distribution requirements
3. Courses with a G suffix may not be used as hours in the major or in the primary department of a BGS area of concentration unless approved by the department
4. At least 12 upper-division hours are required in the major or area of concentration
5. No more than 45 hours in the major may be used for graduation with a BA degree and no more than 50 hours in the major may 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 with the assistance of the primary department's academic advisor.

X. Field Major. Field majors in biochemistry, chemistry/business, classical studies 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 accounting and business administration through the Barton School of Business—2.25 GPA required, plus art history, studio arts, music and theatre through the College of Fine Arts. The number of hours required for a minor is set by each department. A 2.00 minimum grade point average is required in the minor.
XII. BGS: Area of Concentration. The Bachelor of General Studies degree allows students to design their own programs of study crossing departmental, or even college lines. The Bachelor of General Studies degree may allow the student to become a generalist and may allow preprofessional or nontraditional career students greater flexibility in planning for their unique future.

With the assistance of the Bachelor of General Studies adviser 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.

BGS students are given an opportunity to summarize their academic and intellectual goals in an assessment essay.

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.

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 from the primary department of interest 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 field 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. Students must meet BA graduation requirements for all field majors except biochemistry and chemistry/business which lead to the BS degree.

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 the major in biochemistry and chemistry/business which lead to the BS degree.

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 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 Literatures.

International Studies. The program for the international field major is flexible and 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 the international studies advisor in the history department.

Communicative Disorders and Sciences

Students desiring an emphasis in applied language study should see requirements and curriculum for a major in communicative disorders and sciences through Fairmount College of Liberal Arts and Sciences listed in the College of Education 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 major field of study.

Prelaw advisers may be contacted through the college office in Room 200 of Lindquist Hall where students can find information about entrance requirements for law school so that undergraduate programs may be appropriately arranged.

Premedical, Predental, Preveterinary, Prepharmacy, Preoptometry, Prepodiatry, Prechiropractic

Medical schools encourage students to obtain a broad education in addition to the prerequisite studies in the sciences. Preparation for the study of medicine should include courses that develop disciplined thinking, intelligent appreciation of values and sympathetic understanding of society and human interaction. Since the study of medicine is associated with scientific knowledge and techniques, courses in biological sciences, chemistry, physics and allied fields are required.
Students may choose to major in one of these fields or they may select any other major in preparation for the study of medicine. The primary core of prerequisite courses necessary for admission to most medical professional schools includes one year each of English composition, math, biology, inorganic chemistry, organic chemistry, and physics.

The completion of a bachelor's degree is a general admissions requirement for the majority of medical schools. A few medical schools grant admission on the basis of a three-year program of studies. Wichita State students on the three-year program may be granted the bachelor's degree by Wichita State if they have taken 94 hours of preparation (the last 30 must be taken at Wichita State) within the required fields of study and have completed general education requirements for the degree; earned 188 credit points with no more than 20 hours of D grade work; passed the first year of medical or dental school (30 hours); and qualified for admission to the second year. Candidates must apply for the degree. Biological sciences majors are required to complete 94 hours plus the requirements for a major listed under the Department of Biological Sciences section of the Catalog.

Dental schools require prescribed preparation in the sciences as well as a broad education. Entrance requirements are generally similar for most professional schools, but students should give careful attention to the pattern in each school of their choice. Emphasis on the sciences is recommended. The counselor for pre-dental studies in Fairmount College of Liberal Arts and Sciences can provide a specific program of course work for either the three-year or four-year program.

The preparation for the study of veterinary medicine generally includes a minimum of 70 hours and an emphasis on science courses. The counselor for pre-veterinary medicine in Fairmount 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, and related professional fields. The office of the pre-medical professions counselor is in Room 200 of the Lindquist Hall.

Preparation for Secondary Education

Students planning to teach in high school may pursue a College of Liberal Arts and Sciences degree program while preparing to meet State Board of Education requirements for secondary education certificates. Programs for secondary education are outlined in the College of Education section of the Catalog. Liberal Arts and Sciences majors form the base for many certified teaching fields, while the College of Education provides all professional education course work required for certification. For further detail and information, contact a major department advisor in the College of Liberal Arts and Sciences or a teaching field advisor in the College of Education.

**Administration of Justice**

See Hugo Wall School of Urban and Public Affairs.

**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 Bachelor of Arts degree in American studies was discontinued in 1993. However, students currently enrolled in the program will be accommodated. An emphasis in Americans studies is available through the general studies program or a Bachelor of Arts degree field major.

**Anthropology**

Anthropology examines human diversity from biological, historical (including archaeological), social/cultural and linguistic perspectives. Anthropologists study human groups in a holistic manner—recognizing the interconnectedness of economics, society, religion, political organization, technology, value systems, history—and employ cross-cultural comparisons to enhance understanding of all cultures. The broad range of courses offered for majors, for minors and for general distribution requirements provides students opportunities to better understand the value of people from other nations and improve their abilities to interact successfully with them.

A major in anthropology consists of at least 30 hours, including Anthr. 101Q, 124Q, and 647; an area course, such as Anthr. 307, 312, 506, 511, 515Q, 516Q; and one course in archaeology: Anthr. 305Q, 313, 335, 501, 508Q, 538, 611 or 613. Students who expect to pursue graduate work in anthropology should also take Anthr. 526.

Students interested in a particular sub-discipline in anthropology are encouraged to choose courses within one of the following tracks:

- **Medical Anthropology:** Anthr. 101Q, 102Q, 127, 356, 514, 526, 528.
- **Contemporary Cultural Anthropology:** Anthr. 102Q, 127, 303, any or all appropriate area course(s), 318, 503, 519, 522Q, 526, 540, 542, 612, 647, 651.
- **Biological Anthropology:** Anthr. 101Q, 106, 356, 505, 528, 555, 557, 600, 609.
- **Museum Studies:** Anthr. 102Q, 106, 124Q, 303, 305, 502, 522Q, 606, 607.
- **Archaeology:** Anthr. 124Q, 130Q, 305Q, 313, 335, 501, 502, 508, 526, 555, 557, 602, 611, 613.

Certain courses in related departments may be counted toward an anthropology major (in all tracks) if they meet the particular needs of students and are approved by their advisers. No more than six hours from another department may be counted. (Examples: Biol. 105G, 225, 310, 584; Geol. 501, 540, 560, 564; Geog. 681; Hist. 529, 531, 539, 540; Rel. 250Q; Art H. 425)

**Minor.** A minor consists of 15 hours of anthropology (including at least six hours of upper-division work) chosen in consultation with the student's major adviser.

**Lower-Division Courses**

- **100G. Anthropology of Modern Life: an Introduction to American Studies.** (3) Division B course/elective. Anthropological perspectives on the behavior and institutions of contemporary people emphasizing the mass culture of the United States.
- **101Q. Biological Anthropology.** (3) Division C course/elective. Provides an introduction to
the understanding of biological evolution and behavioral development of humans. Introduces the history and basic concepts of biological/evolutionary thought: genetics and cell biology; human origins, ecology, and culture, along with the types of data and modes of analysis currently used in biological anthropology. Formulates explanations of physical and cultural developments of human and nonhuman primates in the last 70 million years. Explores patterns of human variation in biological and behavioral traits among present-day populations and discusses current issues (e.g., the social and biological meaning of variations).

>102Q. Cultural Anthropology. (3). Division B course/elective. The meaning of culture, its significance for human beings and its diverse forms among peoples of the world, past and present.

106. Biological Anthropology Laboratory. (1). Students collect and analyze data while learning to apply current techniques to the study of human and/or non-human primate skeletal, dental and biological specimens. Prerequisite or corequisite: Anthr. 101Q.

107. Cultural Anthropology Laboratory. (1). Students participate in organizing, collecting and analyzing data derived from cultural anthropological investigations. Prerequisite or corequisite: Anthr. 102Q.

>124Q. General Anthropology. (3). Division B course/elective. An introduction to the fields of physical anthropology, archaeology and linguistics and an analysis of the concepts of society and culture emphasizing non-elite peoples of the world.

>125G. Introduction to Archaeology. (3). Division B course/elective. Archaeology for everyone—its mysteries, romance and applications. Compares roles of interested non-specialist historian, technician and professional. Emphasizes archaeology in the public eye and mind.

150. Workshop in Anthropology. (1-3). Designed to provide specialized instruction using a variable format in an anthropologically relevant subject. Repeatable for credit.

200. Intercultural Relations. (3). Examines anthropological perspectives on the contact of individuals and societies which have different cultural histories. Examples are drawn widely from varied contemporary contexts: family life, international business, health and health care, the movement of populations, education in formal and informal contexts, and cultural strategies for survival in the global village.

>201G. The American Hero. (3). Division A course/elective. Defines historical, cultural and environmental conditions that fostered the rise of many genres of American folk heroes. Examines representative heroes from colonial times to the present to see how they symbolize the American character.

210. Crime in America. (3). Division A course/elective. A study of crime in America from colonial times to the present. Explores the evolution of crime, crime as depicted in literature, crime as depicted in popular entertain-

275Q. Studies in Popular Literature. (3). Cross-listed as Engl. 275Q. Studies various forms of popular literature (e.g., revolutionary literature, science fiction, western fiction, detective novel) emphasizing both the literary merits of this work and the way it reflects popular tastes and values. Repeatable for credit with change of content.

281. Cooperative Education in Anthropology. (1-4). Provides practical experience that complements the student's academic program. Consultation with and approval by an appropriate faculty sponsor are necessary. Offered Cr/NCr only.

Upper-Division Courses

303Q. World Cultures. (3). Division B course/elective. Comparative case studies of the cultures of existing societies of varying types, including non-literate peoples, Third World nations and modern industrialized countries. Prerequisite: Anthr. 102Q or 124Q.

305Q. World Archaeology. (3). Division B course/elective. Introduces the basic concepts, methods, techniques and modes of analysis 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.

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.

312. Asia Pacific Cultures. (3). Studies of the cultures and nations in eastern Asia bordering the Pacific Ocean, focusing on historical background, cultural beliefs and practices, and the distinctive patterns of each.

313. Archaeology of East Asia. (3). A broad survey of archaeology throughout eastern Asia from the early hominid fossils at Peking and Java to the development of Chinese and Southeast Asian civilizations. Special attention on China (through the Han Dynasty), southeast Asia and Australia/New Guinea. Includes recent archaeological finds of the Peoples Republic of China.


316. The 1960s in America. (3). Examines the change in cultural narratives from the Beat Generation of the 1950s to the end of the Vietnam Era. The stretching of institutional boundaries by the creation of a cult of youth, the civil rights movement, from a film movement, and the introduction of Eastern thought into public dialogue are covered. Prerequisites: 100G or instructor's consent.

318. Psychological Anthropology. (3). The relationship of individual psychology (personality, emotion, cognition), both normal and abnormal, to group membership and cultural context.

327. Magic, Witchcraft, and Religion. (3). Cross-listed as Rel. 327. An examination of various concepts concerning the realm of the supernatural as held by various peoples around the world. Relates such religious beliefs and the resultant practices of the larger patterns of cultural beliefs and behaviors.

335. Archaeology of North America. (3). A survey of the prehistoric cultures of North America north of Mexico from the earliest peoples of the continent to the time of European colonization.


344. Ecological Anthropology. (3). Investigates the relationships of people both to their physical and sociocultural environments, including the effects of these relationships on economic activities, social interaction and beliefs and behaviors with an emphasis on the evolutionary development of survival strategies.

347. History of Anthropology. (3). An overview of the history of Anthropology from the enlightenment through the middle of the 20th century. Emphasis is on seminal events, theories and contributions that shape the modern discipline of Anthropology. Prerequisites: Anthr. 100G, 101 or 102 or 104.

350Q. American Sports Culture. (3). American sports reflect and influence our values, cultural institutions, and society. The relationship between sports and society, the "business" of collegiate athletics, the evolution of minority group's and women's participation in sports and other topical concerns enable students to understand the impact that sports has upon our American culture.

356. Human Variability. (3). A critical examination of the biological aspects of contemporary human variation, stressing human adaptations. Prerequisites: Anthr. 101Q or Biol. 203Q or equivalent.

361. Law, Politics and Society. (3). The study of legal and political systems in non-Western societies. Includes the origins of the state, precolonial law and politics, the impact of colonialism and problems in state building.

388. Cognitive Anthropology. (3). Concentrates on a transcultural comparison of the cognitive construction of reality, social roles and worldview in foraging, agricultural, and industrial societies focusing on the socioculturally conditioned aspects of intellectual functioning and perceptually based behavior.

400. Success in America. (3). The examination of success in America as it has evolved through three centuries of redefinition and change. How success has changed and the causes and different values (money, fame, happiness and others) associated with success is examined in a variety of literary, biographical, historical and cinematographic sources.

450. The 1950s in America. (3). Promotes
greater understanding of the diverse developments affecting the experience of Americans in the period 1945-1960. This period, referred to as "the fifties," is often regarded today with fond nostalgia. Examines major cultural currents of the time.


498. Readings in Anthropology. (2-3). Repeatable up to six hours. Special problems in anthropology. Prerequisite: 12 hours of anthropology.

499A. American Film Culture. (3). Using films as sources and resources of attitudes, values and beliefs, 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 WII and WWD, the Cold War mentality and the rebellious youth culture of the Vietnam era. Evaluates the collective American mentality during the distribution of these films.

499B. Women in American Film. (3). Cross-listed as Wom. S. 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.

499C. The Western. (3). The western novel and western film serve both as popular forms of entertainment and as distinctive literary and cinematic genres with recognizable elements: plots, formulas, characters, settings and situations. This distinctively American art form reveals much about American values, character and beliefs during the last two centuries.

499D. Kansas in Film. (3). Studies the visual images of Kansas as portrayed in Hollywood films in order to understand how a sense of place complete with stereotypes and fallacies can be created by feature-length movies.

Courses for Graduate/Undergraduate Credit

501. Approach to Archaeology. (3). Lab fee. An introduction to the problems of studying past cultures. Focuses special attention on methodology and techniques available to archaeologists and the theoretical rationale leading to sound interpretations of the structure of extinct cultures. Prerequisite: Anthr. 305Q or 124Q.

502. Introduction to Archaeological Laboratory Techniques. (1-3). Maximum of three hours. An introduction to the laboratory processing of archaeological materials. Direct experience in all phases of preparing excavated materials for analysis, including cleaning, restoring, preserving, numbering and cataloging of ceramic and lithic artifacts and other remains. Prerequisite: Anthr. 124Q or 305Q.

503. Approach to Cultural Anthropology. (3). Fall semester only. An overview of major current directions in the study of culture and of cultures: symbol systems which structure social, political, economic and religious institutions, personality, the arts and bodies of knowledge. Explores controversies that presently animate discussions of the role, methods and content of modern anthropology. Prerequisites: Anthr. 102Q, 124Q or equivalent.

505. Approaches to Biological Anthropology. (3). Spring semester only. An intensive study of three central topics in biological anthropol­ogy: evolutionary theory, paleoanthropology and modern human variation. Emphasizes current theories, methods and issues. Required of all graduate students in anthropology. Prerequisite: Anthr. 101Q or equivalent.


508Q. Ancient Civilizations of the Americas. (3). Division B course/elective. A cultural survey of the Aztec, Maya and Inca. Prerequisite: Anthr. 124Q or instructor’s consent.

511. The Indians of North America. (3). A survey of tribal societies and native federations north of Mexico from the protohistoric through the historic period. Prerequisite: Anthr. 102Q or 124Q.


515Q. China. (3). Division B course/elective. An introduction to the people of China and aspects of their culture: economy, government, society, religion and the arts. Historical attention on the many adjustments the Chinese have made during the 20th century following political revolutions, industrialization and expanding trade relations.

516Q. Japan: People and Culture. (3). Division B course/elective. An introduction to the culture of Japan including its history and prehis­ toric, aspects of traditional culture and 20th century Japan, its economy, politics and social organization.

519. Applying Anthropology. (3). The application of anthropological knowledge in the solution of social problems in industry, public health and public administration. Prerequisite: Anthr. 102Q or 124Q.

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: Anthr. 102Q or 124Q.

526. Social Organization. (3). A survey of the varieties of social organization among nonin­ dustrialized peoples throughout the world. Deals with family systems, kinship, residence patterns and lineage, clan and tribal organizations. Prerequisite: six hours of anthropology.

528. Medical Anthropology. (3). Studies the health and behaviors of various human soci­eties, especially in, but not limited to, those outside the western scientific tradition. Covers 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. A library or field research project is required. Prerequisite: 3 hours of nus­tering or 3 hours of anthropology or instructor's consent.

538. Early Man in the New World. (3). A critical examination of facts and theories concerning early man in the New World from the peo­piling of the continent to the beginning of the Archaic Tradition, and of the role of cultural contacts between eastern Asia and North America. Prerequisite: Anthr. 124Q or 305Q.

540. The Indians of the United States: Conquest and Survival. (3). An anthropological inquiry into four centuries of cultural contact, conflict, resistance and resurgence. Prerequisite: Anthr. 102Q or 124Q or instructor’s consent.

542. Women in Other Cultures. (3). Cross-listed as Wom. S. 542. Deals 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. Compares and contrasts societies in order to see how different kinds of roles for women are related to different kinds of societies.

555. Human Paleontology. (3). A detailed examination of human evolutionary history as evidenced by fossil remains and a survey of various interpretive explanations of the fossil record. Prerequisite: Anthr. 101Q or Biol. 203Q or equivalent.

557. Human Osteology. (3). Deals with human skeletal and dental materials with applications to both physical anthropology and archaeology. Lecture and extensive laboratory sessions include bone and tooth identifications, measurement and analysis and skeletal preservation and reconstruction. Individual projects are undertaken. Prerequisite: Anthr. 101Q or equivalent.


597. Topics in Anthropology. (3). Detailed study of topics in anthropology with particular emphasis being established according to the expertise of the various instructors.

600. Forensic Anthropology. (3). Cross-listed as AJ 600. Encompasses the area of criminal investigation involving biological evidence: blood, hair, fingerprint, dentition and skeletal systems. Covers procedures of collection, preservation, marking, transportation, referral, laboratory analysis, classification and identification emphasizing anthropological interpretation.

602. Archaeological Laboratory Analysis. (1-3). Students analyze archaeological materials, including ceramic, lithic, faunal and vegetal remains according to accepted methods. Stu-
A survey of the cultural dynamics of the Great Plains area from the protohistoric period to the present. Prerequisites: six hours of anthropology and departmental consent.

163. Archaeology of the Great Plains. (3). The archaeology of the Great Plains area from earliest evidence to the historic period. Prerequisite: one introductory course in anthropology or departmental consent.

164. Theories of Culture. (3). A survey of the main theoretical movements in cultural anthropology, including both historical and contemporary schools of thought. Prerequisite: six hours of anthropology.

165. Language and Culture. (3). Cross-listed as Ling. 651. An introduction to historical and descriptive linguistics. Deals with the ethnography of communications, lexicostatistics and linguistic determination. Prerequisite: six hours of anthropology.

166. English Syntax. (3). Cross-listed as Engl. 667 and Ling. 667. Examination of aspects of the structure of English and their relation to linguistic theory. Prerequisite: Engl. 315 or Ling. 577 or Anthr. 577 or instructor's consent.

169. Field Methods in Anthropology. (3-6). A maximum of six hours can be counted as anthropology hours toward either degree. 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.

170. Directed Readings in American Studies. (1-3). Prerequisites: six hours of American studies course work or equivalent and instructor's consent.

176. Advanced Studies in Archaeology and Ethnography. (1). Special area and theory problems in a historical approach to culture. Prerequisites: six hours of anthropology and departmental consent.

177. Advanced Cultural Anthropology. (3). Emphasizes cultural theory and methodology and the philosophy of research. Repeatable for a total of six hours of credit. Prerequisites: six hours of American studies course work or equivalent and instructor's consent.

178. Introduction to Research. (3). Bibliography, methodology and the philosophy of research. Repeatable for a total of six hours of credit. Prerequisites: six hours of American studies course work or equivalent and instructor's consent.

179. Seminar in American Studies. (3). Individual conferences organized around a problem or problems presented by a representative figure, theme or period, i.e., the Industrial Revolution, reconstruction, westward migration or Mark Twain and the Mississippi. Repeatable for a total of six hours of credit. Prerequisites: six hours of American studies course work or equivalent and instructor's consent.

180. Seminar in Archaeology. (3). Comprehensive analysis of archaeological data emphasizing theoretical problems of interpretation and reconstruction. Repeatable up to six hours. Prerequisite: Anthr. 501 or departmental consent.

182. Methods in Anthropology. (2-3). Develops abilities in the conception and investigation of anthropological problems and interpretation and observation techniques, as well as more specialized methods such as photography, mapping and tape recording. Repeatable up to six hours. Prerequisite: departmental consent.

183. Seminar in Physical Anthropology. (3). Analysis of fossil, skeletal and modern biological differences among people. Emphasizes methods and techniques of analysis with a consideration of current interpretive models. Prerequisite: Anthr. 556 or 557 or departmental consent.

184. Seminar in Cultural Anthropology. (3). Intensive study of advanced theoretical questions in cultural anthropology. Repeatable up to six hours. Prerequisites: five hours of anthropology.

185. Colloquium in Anthropology. (1-2). S/U grade only. Repeatable for a maximum of three hours. Seminar-style experience in recent research in all of the subfields of anthropology. 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.

186. Recent Developments in Anthropology. (3). A review of the latest discoveries and interpretations in the science of human beings. Repeatable up to six hours. Prerequisite: five hours of anthropology.

187. Independent Reading. (2-3). Repeatable up to six hours. Prerequisite: departmental consent.

188. Seminar in Physical Anthropology. (3). Cross-listed as Biol. 203Q, 204, 418, 419, 420, and either Biol. 497 or Biol. 499. Candidates for either degree also must complete two semesters of inorganic chemistry (typically Chem. 111Q and 112Q) and one semester of organic chemistry (typically Chem. 531). Candidates for the BS degree must also complete two semesters of physics (typically Phys. 213Q and 214Q). Candidates for either degree are required to take the Field Achievement Test in Biology during the...
senior year and contribute examples of their course work to the department's assessment program. All candidates must maintain a grade point average of 2.00 in all biological sciences course work.

Minor. Candidates for a minor in biological sciences must complete Biol. 203Q, 204, and any two of the following: Biol. 418, 419, or 420. Candidates for the minor must maintain a 2.00 grade point average in all biological sciences course work.

Biochemistry Field Major. The departments of biological sciences and chemistry participate jointly in this program. Required courses are Biol. 203Q, 204, 419, and 420; 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. (Chem.) 666 and 669 (two enrollments); and 21 elective hours chosen from among those approved for the biochemistry field major (see academic adviser or departmental offices for approved courses).

Major in Biological Sciences: Secondary Education. This major allows for the completion of the requirements for a degree in biological sciences and the certification requirements to teach biology and general science—grades 7-12. Students selecting this option should work closely with the teacher education adviser. The Bachelor of Arts (BA) in Biological Sciences: Secondary Education requires the completion of Biol. 203Q, 204, 330, 418, 419, 420, 524, one four-hour course in Botany, and one of the following: Biol. 503, 560, 575, or 578. Also required are Chem. 111Q, 112Q, 523, and 531; Phys. 213Q, Geol. 302Q; Math 112; CI 720 and 721; and the professional education requirements for majors in science as outlined by the College of Education. For the Bachelor of Science (BS) in Biological Sciences: Secondary Education, students must complete additional hours to total a minimum of 40 semester hours of course work in biological sciences (a maximum of 50 hours may be taken for credit) and Physics 214Q.

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)
Some laboratory exercises and class projects conducted at local field sites. Pre-requisite: BioI. 420. Molecular Cell Biology. (3). Concerned primarily with the molecular biology of eukaryotic cells. Coverage of individual cellular components (organelles) and processes includes the plasma membrane, mitochondrion and energy conversion, intracellular sorting, the cell nucleus and genetic mechanisms, control of gene expression, cell signalling, cell growth and division, cancer, and cellular mechanisms of development. Current techniques and experimental approaches for studying cells are reviewed and demonstrated. Students who have completed BioI. 500 may not receive credit for prior enrollment in that course and subsequent enrollment in this course. Students seeking to repeat BioI. 506 may enroll in this course, subject to the credit limitations indicated. Prerequisite: BioI. 204.

419. Genetics. (3). The mechanisms of heredity and variation in animals, plants, and prokaryotes with a critical review of gene structure and function. Students who have completed BioI. 584 may not receive credit for prior enrollment in that course and subsequent enrollment in this course. Students seeking to repeat BioI. 584 may enroll in this course, subject to the credit limitations indicated. Prerequisite: BioI. 204.

420. Molecular Cell Biology. (3). Concerned primarily with the molecular biology of eukaryotic cells. Coverage of individual cellular components (organelles) and processes includes the plasma membrane, mitochondrion and energy conversion, intracellular sorting, the cell nucleus and genetic mechanisms, control of gene expression, cell signalling, cell growth and division, cancer, and cellular mechanisms of development. Current techniques and experimental approaches for studying cells are reviewed and demonstrated. Students who have completed BioI. 500 may not receive credit for prior enrollment in that course and subsequent enrollment in this course. Students seeking to repeat BioI. 500 may enroll in this course. Prerequisites: BioI. 204 and Chem. 311.

471. Wildlife Management. (4). 2R; 3L. Designed to present both theoretical and practical principles of wildlife management. Topics covered include wildlife legislation, ecological rules applicable to wildlife populations, procedures for habitat analysis and inventory, and wildlife restoration. Laboratory exercises and class projects will be conducted at local field sites. Emphasis on habitat analysis and restoration during the field portion. Prerequisites: BioI. 418.

481. Cooperative Education. (2-4). Course complements and enhances the student's academic program by providing an opportunity to apply knowledge gained through course work to job-related situations. For information contact the coordinator of undergraduate studies or the Cooperative Education program office. No more than four credit hours earned in BioI. 481 may be applied toward satisfying the requirements for a major in biological sciences. Prerequisite: applicant and cooperative education position approved by the departmental affairs committee. Offered C/NC only.

497. Biology Colloquium. (1). S/U grade only. Research seminars presented by graduate students, faculty, and visiting researchers. A written term paper on one of the presented topics is required. Repeatable once for credit. Prerequisites: completion of two of the following courses—BioI. 418, BioI. 419 or BioI. 420.

498. Undergraduate Independent Reading. (2). S/U grade only. Students perform library scholarship under the direct supervision of faculty and write a report. No more than six credit hours earned from BioI. 498, 499, or equivalent independent study courses may be applied toward departmental major graduation requirements. Prerequisites: at least 20 hours of biology course work that satisfies the major requirements; instructor's consent; a Directed Independent Study Abstract form; and departmental consent.

499. Undergraduate Research. (2-4). S/U grade only. Students perform laboratory or field research under the direct supervision of faculty and write a report. No more than six credit hours earned from BioI. 498, 499, or equivalent independent study courses may be applied toward departmental major graduation requirements. Prerequisites: at least 20 hours of biology course work that satisfies the major requirements; instructor's consent; a Directed Independent Study Abstract form; and departmental consent.

Courses for Graduate/Undergraduate Credit

502. Vascular Plants. (4). 2R; 6L. An introduction to the structure, reproduction and evolution of the major groups of living and extinct vascular plants. Includes an introduction to flowering plant systematics. Students earning graduate credit perform a primary literature survey on a topic selected in consultation with the instructor and deliver a 30-minute oral presentation to the class. Prerequisite: BioI. 204.

503. Taxonomy and Geography of Flowering Plants. (4). An introduction to the principles and methods of plant taxonomy and to 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 throughout Sedgwick County and 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: BioI. 204 or instructor's consent.

524. Vertebrate Zoology. (4). 2R; 4L. Evolution, distribution, systematics, natural history and special characters of vertebrate animals. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: BioI. 204. BioI. 527 also is recommended.

526. Endocrinology. (4). 3R; 3L. The hormonal regulation of bodily functions is considered in representative vertebrate systems, including humans. Students enroll in both lecture and laboratory portions of class. Students earning graduate credit submit a term paper on a topic chosen in consultation with the instructor. Prerequisites: BioI. 204.

527. Comparative Anatomy. (5). 3R; 4L. An intensive study of representative chordates emphasizing vertebrate anatomy. Students earning graduate credit complete additional assignments chosen in consultation with the instructor, such as a term paper based on technical literature, dissection of additional animals, etc. Prerequisite: BioI. 204.

528. Parasitology. (4). 2R; 4L. The parasites of man and other vertebrate hosts. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: BioI. 204.

532. Entomology. (5). 3R; 4L. An introduction to the morphology, physiology, life cycles, behavior, ecology and economic significance of insects. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor or develop proficiency in a specific taxon by performing an individual systems project. Prerequisite: BioI. 204.

534. Mammalian Physiology. (3). An organ systems approach to mammalian—primarily human—physiology. Emphasizes nervous and endocrine control systems and the coordination of body functions. Students earning graduate credit submit a term paper based upon library research on a topic in mammalian physiology chosen in consultation with the instructor. Prerequisites: BioI. 204 and Chem. 531 or instructor's consent.

535. Mammalian Physiology Laboratory. (2). 4L. An empirical approach to mammalian physiology. Students seeking graduate credit 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 BioI. 534.

540. Developmental Biology. (4). 2R; 4L. Meiosis, fertilization, and development processes in animals emphasizing vertebrates. Students earning graduate credit complete additional assignments chosen in consultation with the instructor. Prerequisite: BioI. 204. BioI. 527 also is recommended.
573. Statistical Applications in Biology. (3). Emphasizes data analysis from published papers. A student must complete an additional 2 hours of work under the supervision of the instructor. Prerequisites: Stat. 370 and Biol. 418 or instructor's consent.

575. Field Ecology. (3). Techniques for analysis of systems consisting of living organisms and their environments. Field trips are required. Students earning graduate credit must independently design and conduct research projects. Prerequisites: Stat. 370 and Biol. 418 or instructor's consent.

600. Topics in Microbiology. (2-4). See Biol. 610. Prerequisite: Biol. 204 and instructor's consent.

605. Topics in Zoology. (3-4). See Biol. 610. Prerequisite: Biol. 204 and instructor's consent.

640. Topics in Zoology. (3-4). See Biol. 610. Prerequisite: Biol. 204 and instructor's consent.

660. Special Topics in Biochemistry. (3). Prerequisites: Biol. 419 or instructor's consent.

674. Research in Biochemistry. (2). Cross-listed as Chem. 669. 5/1 grade only. Primarily for students who choose the biochemistry concentration. Requires participation in a biochemistry research project under the direction of a faculty member and a written report summarizing the results. May be repeated once for credit. Prerequisites: Biol. 420 or Chem. 662 or 663 and Chem. 664 and instructor's consent.

740. Research Methods. (3). 1R; 3L. This is a lecture/laboratory course designed to introduce graduate students to basic methods and instrumentation used in biological research. Prerequisite: Biol. 420.

750. Biology Workshop. (1-3).

760. Experimental Molecular Biology. (4). 2R; 6L. Designed to introduce upper level undergraduate and graduate students to molecular biology techniques. The methodology primarily involves the manipulation of DNA and the expression of genetic material in prokaryotic and eukaryotic systems. Prerequisites: Biol. 419 or 420.

771. Evolutionary Ecology. (4). 3R; 2L. Presents a synthesis of basic principles in population genetics and ecology as a framework for the study of topics in evolutionary ecology. Emphasizes (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 structure; (5) population regulation and dispersal; (6) life history strategies in heterogeneous environments; and (7) demographic and genetic covariance. Teaches basic techniques in population ecology on several short field trips throughout the semester. Prerequisite: Biol. 418, 419, or instructor's consent.

780. Molecular Genetics. (3). Studies of the biochemical nature of genetic material and the mechanisms of genetic regulation of metabolism. Students earning graduate credit 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. 419 or 584.

790. Advanced Immunology. (3). Emphasizes the design of experiments to answer specific hypotheses, the treatment of non-normally distributed data and non-homogeneous experimental test units and the use of packaged computer programs for certain statistical tests. Access to calculators with at least two memory banks is strongly encouraged. Students earning graduate credit complete an additional statistical analysis assignment involving the use of the computing facilities. Prerequisites: Stat. 370.

Courses for Graduate Students Only

800. Research. (2-5). 5/1 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.

891. Thesis. (2-5). 5/1 grade only. Students must be enrolled in this course during the semester in which the thesis is defended.

Chemistry

The chemistry department offers a broad and flexible curriculum leading to a variety of degrees and options: Bachelor of Science 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. 302, 505, 514, 524, 532, 545, 546, 547, 613, and 615 and their necessary prerequisites, including Math. 344 and Phys. 313, 314, 315 and 316 or their equivalents. An additional eight credit hours of professional elective courses must be taken. At least two credit hours of these courses must be selected from chemistry courses above 610 (701 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 or Physics 625; (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, marketing 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, 562, 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, pre-dental, pre-veterinary, pre-pharmacy, pre-optometry 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, 613, 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 requirements 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, 419 and 420; Chem. 111Q, 112Q, 523, 531, 532, 662, 663 and 664; Phys. 213Q and 214Q and Math. 112 (or 111 and 112). 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. Buesch 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: Acct. 210 and 220; Econ. 201Q and 202Q; B. Law 435; Fin. 340; Mgmt. 560, and Mkrt. 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. 514, 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. 202</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 505</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 514</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 531, 532</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 523, 524</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 545, 546</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 547</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 613</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 615</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 610-790</td>
<td>2</td>
</tr>
<tr>
<td>Phys. 313Q, 314Q, 315Q, 316Q</td>
<td>10</td>
</tr>
<tr>
<td>Math. 112, 242Q, 243, 344</td>
<td>18</td>
</tr>
<tr>
<td>Professional elective</td>
<td>6</td>
</tr>
</tbody>
</table>

*Part of the required eight hours of professional elective courses (see description above).

**Recommended Course Sequence**

**Freshman**

<table>
<thead>
<tr>
<th>Fall courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, General Chemistry</td>
</tr>
<tr>
<td>Math. 112, Precalculus Mathematics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 112Q, General and Inorganic Chemistry</td>
</tr>
<tr>
<td>Math. 242Q, Calculus</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Fall courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 302, Microcomputing for Chemists</td>
</tr>
<tr>
<td>Chem. 531, Organic Chemistry</td>
</tr>
<tr>
<td>Math. 243, Calculus II</td>
</tr>
<tr>
<td>Phys. 313Q, University Physics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 532, Organic Chemistry II</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II</td>
</tr>
<tr>
<td>Phys. 315Q, University Physics Lab</td>
</tr>
</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Fall courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 514, Inorganic Chemistry</td>
</tr>
<tr>
<td>Chem. 523, Analytical Chemistry</td>
</tr>
<tr>
<td>Phys. 316Q, University Physics Lab II</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 545, Physical Chemistry</td>
</tr>
<tr>
<td>Chem. 505, Chemical Literature</td>
</tr>
<tr>
<td>Chem. 524, Instrumental Methods of Chemical Analysis</td>
</tr>
<tr>
<td>Biological science</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Fall courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 546, Physical Chemistry</td>
</tr>
<tr>
<td>Chem. 547, Physical Chemistry Laboratory</td>
</tr>
<tr>
<td>Professional elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring courses Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 615, Advanced Inorganic Chemistry</td>
</tr>
<tr>
<td>Chemistry course above 610</td>
</tr>
<tr>
<td>Chem. 613, Inorganic Chemistry Laboratory</td>
</tr>
<tr>
<td>Professional elective</td>
</tr>
</tbody>
</table>

**Bachelor of Arts**

<table>
<thead>
<tr>
<th>Course Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
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<tr>
<td>Chem. 531, 532</td>
</tr>
<tr>
<td>Chem. 523, 524**</td>
</tr>
</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. 514</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 523, 524</td>
<td>8</td>
</tr>
<tr>
<td>Chem. 531, 532</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 662, 663</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 664</td>
<td>3</td>
</tr>
<tr>
<td>Chem. (Biol.) 666</td>
<td>3</td>
</tr>
<tr>
<td>Chem. (Biol.) 669</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 203Q, 204</td>
<td>4</td>
</tr>
<tr>
<td>Biol. 419</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 420</td>
<td>3</td>
</tr>
<tr>
<td>Math. 112 or 111, 123</td>
<td>5-6</td>
</tr>
<tr>
<td>Phys. 213Q, 214Q</td>
<td>10</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. 523</td>
<td>4</td>
</tr>
<tr>
<td>Chem. 531, 532</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 561 or 662</td>
<td>3</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>Acc. 210 and 220</td>
<td>6</td>
</tr>
<tr>
<td>Econ. 201Q and 202Q</td>
<td>6</td>
</tr>
<tr>
<td>Mkt. 300, 405, 608</td>
<td>9</td>
</tr>
<tr>
<td>Fin. 340</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 360</td>
<td>3</td>
</tr>
<tr>
<td>B. Law 435</td>
<td>3</td>
</tr>
</tbody>
</table>

All programs require additional courses to satisfy general education curriculum requirements and the graduation requirements in Fairmount College of Liberal Arts and Sciences.

Lower-Division Courses

<table>
<thead>
<tr>
<th></th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;101Q. The Science of Chemistry. (3). Division C course/elective.</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 545, 546**</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 547</td>
<td>2</td>
</tr>
<tr>
<td>Physics (one year)</td>
<td>10</td>
</tr>
<tr>
<td>Math. 112, 242Q, 243, 344</td>
<td>18</td>
</tr>
</tbody>
</table>

**Biochemistry 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. 514</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 523</td>
<td>8</td>
</tr>
<tr>
<td>Chem. 531</td>
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This page contains a partial list of courses in the Bachelor of Science in Chemical Science, Bachelor of Science in Biochemistry and Chemistry Business Field Majors, and Lower Division Courses. It includes course codes, titles, and credit hours for various chemistry-related courses. For a complete list and additional information, please refer to the original text.
mechanics, spectroscopy and statistical thermodynamics. Prerequisites: one year of college physics and Math. 344 or its equivalent.

547. Physical Chemistry Laboratory. (2). 6L Lab fee. Physical chemistry experiments that illustrate principles learned in Chem. 545 and 546. Prerequisite: Chem. 545 or 456.

561. Introduction to Biochemistry. (3). A brief history of biochemistry, emphasizing the development of molecular biology, chemistry of biomolecules—proteins, carbohydrates, lipids, nucleic acids and vitamins, molecular basis of bioenergetics and metabolism and storage, transfer and control of genetic information. Course meets the needs of majors from health related programs and science education curricula. Prerequisite: Chem. 531 or 533 or one semester of organic chemistry.

602. Numerical Methods. (2). Application of numerical methods to problems in chemistry and physics. Roots of equations; curve fitting; interpolation; extrapolation; and smoothing of experimental data. Difference equations and numerical integration; and computer programming. Prerequisite: instructor's consent.

603. Industrial Chemistry. (3). Bridges the industrial-academic gap. Includes petroleum chemistry and major processes in industrial inorganic chemistry. Also discusses some aspects of environmental chemistry such as hazardous and nuclear waste disposal and air pollution. Topics in polymer chemistry include major synthetic routes to high polymers and resins, techniques of polymer characterization, structure-property correlations and methodology in plastics and composites processing. Prerequisite: Chem. 532 or concurrent enrollment.

605. Medicinal Chemistry. (3). For students interested in chemistry related to the design, development and mode of action of drugs. The primary purpose of the course is to describe those organic substances that are used as medicinal agents to explain the mode of action and chemical reactions of drugs in the body; to illustrate the importance and relevance of chemical reactions as a basis of pharmacological activity, drug toxicity, allergic reactions, carcinogenicity, etc.; and to bring about a better understanding of drugs. Includes transport, basic receptor theory, metabolic transformation of drugs, discussion of physical and chemical properties in relation to biological activity, drug design, structure-activity relationships and discussion of a select number of organic medicinal agents. Prerequisites: Chem. 532 or 533 or equivalent; a semester of biochemistry (Chem. 561 or 662) and a year of biology are strongly recommended.

615. Inorganic Chemistry Laboratory. (2). 6L Lab fee. Experimental methods of inorganic chemistry. Prerequisite: Chem. 514 or concurrent enrollment.

625. Electronics. (2). 1R; 4L 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.

641. Advanced Physical Chemistry. (3). Introduction to quantum chemistry, atomic and molecular spectra, statistical thermodynamics and reaction rate theory. Prerequisite: Chem. 546.

652. 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. A team of chemists and physicists discusses standard experimental and theoretical techniques used in research in chemical physics. Prerequisite: Chem. 641 or instructor's consent.

662. Biochemistry of Cell Constituents, Catalysis, Oxidation, Photosynthesis. (3). Study of major constituents of the cell: protein, carbohydrate, glycoprotein, lipid, nucleic acid, nucleoprotein; enzyme 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.

663. Biochemistry of Cell Metabolism, Biosynthesis, Structure, Function and Regulation of Proteins and Nucleic Acids. (3). Study of metabolism and control of carbohydrates, lipids, phosphoglycerides, spingolipids, sterols, amino acids and proteins; synthesis of porphyrins, amides and polypeptides; synthesis and metabolism of purines, pyrimidines and nucleotides; synthesis and structure of DNAs, RNAs and proteins; organization and functioning of genes; evolution of proteins and nucleic acids; hereditary disorders of metabolism; biochemistry of endocrine glands; major nutrients and vitamins; body fluids and generalized tissues. A fundamental background of biology or microbiology is recommended but not essential. Prerequisite: Chem. 662.

664. Biochemistry Laboratory. (3) 1R; 6L Lab fee. Practical training in biochemical procedures and literature searching; experiments include isolation, characterization and assay of biomolecules and use of centrifugation, chromatography, electrophoresis, spectrophotometry, radioactive tracer and radioactive labeling techniques. Should be taken concurrently with Chem. 662 or Chem. 663. Prerequisite: Chem. 532 or equivalent.

666. Special Topics in Biochemistry. (3) (Offered spring semester in odd-numbered years.) Discusses a small number of current problems in biochemistry in depth. Requires reading of published research in the field. Prerequisites: Biol. 204 and Chem. 662 and 663.

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 direction of a faculty member. Requires a written report summarizing the results. May be repeated once for credit. Prerequisites: Biol. 500 and Chem. 662 or 663.

700. Independent Study and Research. (2-3). Studies performed must be directed by a faculty member in the Department of Chemistry. Repeatable for credit. A maximum of three credit hours may be counted toward graduation. Prerequisite: departmental consent.

701. Chemistry Colloquium. (1). S/U grade only. Speakers for the colloquium consist of outstanding chemists from other institutions and faculty. Repeatable for credit.


709. Special Topics in Chemistry. (2-3). A discussion of topics of a special significance and interest to faculty and students. Offerings announced in advance. Repeatable for credit.

712. Coordination Chemistry. (3). The study of the synthesis, characterization and properties of coordination compounds. Includes nomenclature, fundamental bonding concepts, principles of synthesis, mechanisms of substitution and electron transfer reactions, catalysis and solid-state phenomena. Prerequisite: Chem. 615 or equivalent.

713. Physical Methods in Inorganic Chemistry. (3). An introduction to electronic and vibrational spectroscopy, magnetic susceptibility, EPR, NMR, Mossbauer spectroscopy and X-ray crystallography as applied to inorganic systems. Emphasis on interpretation of results for understanding the electronic and molecular structure of compounds. Prerequisite: Chem. 705 or equivalent.

731. Physical Organic Chemistry. (3). Discussion of advanced topics in stereochemistry and conformational analysis and organic reaction mechanisms. Prerequisite: Chem. 532.

732. Advanced Organic Synthesis. (3). Discussion of modern synthetic methods in organic chemistry including carbon-carbon forming reactions, oxida ti on and reduction reactions, protective groups and organometallic chemistry. Prerequisite: Chem. 532.


741. Quantum Chemistry. (3). Theoretical basis of atomic and molecular structure. Includes the postulates of quantum mechanics, exact solutions for the particle-in-a-box and the hydrogen atom, variation and perturbation techniques, electron spin, Hartree-Fock and configuration-interaction methods, molecular-
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.

814. Organometallic Chemistry. (3). A study of the synthesis, structure, bonding, reactivity and industrial applications of organotransition and nontransition metal compounds. Prerequisite: Chem. 615 or equivalent.

815. Bioorganic Chemistry. (3). The study of the role of inorganic chemistry in biological systems. Includes 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 equivalent.

821. Equilibrium and Statistics in Analytical Chemistry. (3). Covers homogeneous and heterogeneous solution equilibrium calculations and statistical methods used in experiment design and data analysis. Prerequisite: Chem. 524 or equivalent.

822. Analytical Separations. (3). The theory and practice of analytical separation methods including gas and liquid chromatography, ion exchange and electrophoresis. Prerequisite: Chem. 524 or equivalent.

823. Analytical Spectroscopy. (3). Absorption (UV visible, IR and atomic); emission: flame emission and atomic absorption spectrometry, molecular fluorescence and phosphorescence methods; Raman, nuclear magnetic resonance and electron spin resonance spectroscopy; X-ray methods. Lectures and discussions on theory and practice. Particular emphasis on instrumentation and the acquisition of artifact-free data. Prerequisite: Chem. 524 or equivalent.

824. Electroanalytical Chemistry. (3). Includes voltammetry, polarography, chronocoulometry and coulometry; reversible and irreversible diffusion controlled processes; CE (chemical reaction before electrical reaction), EC (electrical reaction before chemical reaction) and catalytic reaction; and organic polymerization and voltammetry. Prerequisite: Chem. 524 or equivalent.

831. Advanced Physical Organic Chemistry. (3). Includes molecular orbital theory, sigma tropic rearrangements, electrocyclic reactions, cycloadditions, reactive intermediates and photochemistry. Prerequisite: Chem. 731.

832. Modern Synthetic Methods. (3). Discussion of retrosynthetic analysis, applications, asymmetric syntheses and stereochemistry. Prerequisite: Chem. 732.

833. Natural Products Chemistry. (3). Discussion of the structure, chemistry and biosynthesis of the alkaloids, steroids, terpenoids, carbohydrates and aromatic and aliphatic natural products. Prerequisite: Chem. 732.

834. Heterocyclic Chemistry. (3). An account of the physical and chemical properties of the main classes of heterocyclic compounds. Prerequisite: Chem. 732.

835. Bioorganic Chemistry. (3). Includes 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 663 and 732.

841. Advanced Quantum Chemistry. (3). Considers advanced applications of quantum mechanics to atomic and molecular problems. Includes determinant wave-functions, angular momentum coupling, time-dependent perturbation theory, relativity considerations, tensor operators and molecular orbital calculations. Prerequisites: Chem. 705 and 741 or equivalents.

842. Chemical Kinetics. (3). A description of reacting systems, including the mathematical and experimental characteristics of simple and complex kinetic systems. Discusses the theories of chemical kinetics, 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.

843. Statistical Thermodynamics. (3). Develops Boltzmann, Fermi-Dirac and Bose-Einstein statistical mechanics with applications to gaseous-state and solid-state chemical problems. Emphasizes the relationship of statistical mechanics and thermodynamics. Considers applications of statistical thermodynamics to polymers. Prerequisites: Chem. 546, 845 or equivalents.

845. Chemical Thermodynamics. (3). A presentation of the basic three laws of thermodynamics in a classical framework to increase understanding of real physical systems. Emphasizes theory and its application to chemical systems. Prerequisites: Chem. 545, 546 and Math. 344 or equivalents.

846. Molecular Spectroscopy. (3). The theoretical basis for spectroscopy and spectroscopic determinations of molecular structure. Includes polyatomic molecules, time-dependent perturbation theory, vibration and rotation of diatomic molecules, vibration and rotation of polyatomic molecules, electronic and magnetic resonance and spectroscopy. Prerequisites: Chem. 741 or its equivalent and Chem. 705 or its equivalent.

847. Chemistry of Condensed Matter. (3). Includes thermodynamics, statistical mechanics, quantum chemistry and structural determinations of condensed phase matters. Emphasizes size-effect and allometric considerations, composite materials and advanced materials. Prerequisites: Chem. 741 and 745 or equivalents.

852. Techniques of Polymer Characterization. (3). A study of physical, spectroscopic and diffraction techniques to determine the size, structure and morphology of polymers.

853. Polymer Properties. (3). Kinetics and thermodynamics of the crystallization process and the influence of sample history on the gross morphology of the crystallites. Structural features which preclude the development of polymer crystals and encourage amorphous character, relationships between structure, Tm and Tg, theoretical strengths of materials, the time dependent mechanical behavior of polymers and the Maxwell and Voigt models of viscoelasticity. The Boltzman superposition principle and how it can be used to predict creep behavior, mechanisms of deformation, yielding and fracture in polymers. Prerequisite: degree in chemistry or related subject.

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 663 or equivalent.

862. Biotechnology: Principles and Applications. (3). Presents a broad informed 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.

863. Analytical Biochemistry. (3). A review of modern analytical methods used in biochemistry and molecular biology including absorbance and fluorescence spectroscopy, chromatography, gel-filtration, HPLC, ion-exchange, isoelectric focusing, gel electrophoresis, radioactive tracer methods; cloning, sequencing and recombinant DNA procedures. Prerequisites: Biol. 203 and 204 and Chem. 662 or 663 or equivalents.
Communication, Elliott School of
The Elliott School of Communication offers an integrated major in communication leading to the Bachelor of Arts (BA) degree. Students can develop a special (open) emphasis that is respectful of their background and experience and consistent with their educational and professional goals, or choose a structured emphasis in advertising, electronic media, journalism, public relations, or speech communication.

This comprehensive communication degree has three distinguishing characteristics:

1. It is interdisciplinary in nature, reflecting the contemporary belief that all media of communication are engaged in essentially the same functions (gathering information and creating and disseminating messages) and that the present-day communication professional must be schooled in the basic skills—writing, speaking, and visual communication—and develop the ability to plan, organize, evaluate, and think strategically. Founded on the principle that communication specialists should also be communication generalists, this degree program combines disciplinary strengths in an interdisciplinary matrix.

2. It is consistent with the mission of Wichita State University to offer programs that are responsive to the needs of the urban community that the University serves. The Kansas communication industry has its focus in Wichita, the major media center of the state.

3. Its location allows the program and its students to take fuller advantage of the communication opportunities afforded by the largest city in Kansas. The region of the state served by WSU includes one public and four commercial television stations, more than 15 radio stations, nine daily and 32 weekly newspapers, more than 25 advertising agencies, and a range of international, national, regional, and local industries, businesses, and public agencies, many with substantial communication operations. This setting allows students to combine academic and professional interests in a program that matches precept with example, education with experience.

Degree Requirements
Outside Requirements. All students in the communication major must complete a minimum of 84 credits outside of communication. These credits include the general education requirements plus the following three specific courses in an outside concentration:

- ArtG 210, Visual Communication;
- Mgmt 101G, Introduction to Business;
- Mkt 300, Marketing.

Major. Students majoring in communication must maintain a 2.5 grade point average (overall and in the major), complete a minimum of 33 credits in communication, including 18 credits in the communication core, and submit a portfolio of their work before their senior year (see portfolio requirement below). All students must take 130Q, 301, 325, and 535. Their choice of two courses from 430, 630, and 631 will vary depending on the structured emphasis area they choose. At least 15 credits must be in either a structured or an open emphasis area. Specific course requirements in the emphasis areas are as follows:

a. Open Emphasis. Communication Core: 130Q, 301, 325, 535, and two courses from 430, 630, 631. Emphasis Area:

b. Advertising. Communication Core: 130Q, 301, 325, 535, and two courses from 430, 630, 631. Emphasis Area:

324, 510, 525, 526, 626, 627. In addition, students in this emphasis must complete Mkt 405, 607, and one course from Mkt 403, 407, 608, or Psy 304.


Emphasis Area: 204 and two courses from 214, 530, 604, 609, one upper division writing class beyond Comm 301 in journalism, broadcast news, public relations, or advertising, depending on the student's needs and interests; and one related course in communication selected in consultation with an adviser.


Emphasis Area: 401, 500, 510, 240, plus at least one course from a list of 12 specific courses in communication (a copy of this listing is available in the main office or from any faculty adviser.)

Note: Students interested in broadcast journalism can substitute courses in the journalism emphasis with 401, 422, 522, 622, and one related course in communication selected in consultation with an adviser.

e. Public Relations. Communication Core: 130Q, 301, 325, 430, 535, and 630. Emphasis Area: 350, 502, 510, 625, and at least one additional upper division communication course. Students are also encouraged to supplement work in this emphasis by selecting courses from a list of nine additional courses in marketing, management, and communication (a copy of this listing is available in the main office or from any faculty adviser).

f. Speech Communication. Communication Core: 130Q, 301, 325, 430, 535, and 631. Emphasis Area: At least 15 credits in communication selected from a list of 15 courses (a copy of this listing is available in the main office or from any faculty adviser). Students can substitute courses listed for the emphasis area by selecting groupings of courses in political communication or organizational communication in consultation with a faculty adviser.

Minor. A minor in communication consists of two courses from the communication core plus at least 12 hours of...
electives in communication (six hours must be at the 300 level or above) chosen with the approval of a faculty adviser.

Admission Requirements
Students planning to pursue a major in communication must make formal application for admission to major status. This usually is done during the sophomore year. To be admitted, applicants must: be students in Fairmount College of Liberal Arts and Sciences; have an overall grade point average of 2.5 or better; pass a standardized English Proficiency Test; and file an Application for Admission to Major Status form with the Elliott School of Communication. Additional information regarding the application process and procedures is available from the main office of the Elliott School.

Advising Requirements
Students will be assigned a faculty advisor on admission to major status and will be required to meet with that advisor at least once a semester while they are enrolled. The undergraduate coordinator will advise all pre-majors in communication to help students understand and attempt to meet the Requirements for Admission to Major Status in Communication (see Admission Requirements above). Students admitted to major status will be assigned a faculty adviser who will help them select their emphasis area or develop an open emphasis, which requires preparation of an undergraduate plan of study.

Portfolio Requirement
Each student majoring in communication must present an acceptable portfolio of their work during the semester immediately prior to the beginning of their senior year (90 semester hours). This portfolio, which can include videotapes, audiotapes, published articles, scholarly papers, etc., will be reviewed by a three-person committee of communication faculty and professionals. This committee will evaluate (acceptable/unacceptable) the portfolio and make recommendations for improvement and advancement during the senior year.

Transfer Credits
No more than 15 credits in communication will be accepted from other colleges or universities for students transferring to WSU and wishing to major in communication. The Elliott School of Communication is offering a unique program in communication, and students graduating with a major in communication from WSU must complete most of their major course work in residence.

Communication Core Courses
130Q. Communication and Society. (3). Division B course/elective. An introduction to the functions, processes and effects of individual and mass communication in American society. Explores economic, social and governmental impacts of such communication. Includes a survey of the media and communication industry.

301. Writing for the Mass Audience. (3). An introduction to the technique of writing for the mass audience, including emphasis on approach necessitated by technology in dealing with print, broadcast, advertising, and public relations. Prerequisites: Engl. 101, Engl. 102, and Comm. 130Q with a grade of C or better in each and pass departmental English Proficiency Exam.

325. Speaking in Business and the Professions. (3). A study of the basic concepts of public speaking and discussions as they apply to the business and professional person. Emphasizes public presentations, group leader- ship and interpersonal communication as appropriate to business and professional oral communications. Prerequisite: Comm. 111 with a grade of C or better.

430. Communication Research and Inquiry. (3). Introduction to the process of research and inquiry across the discipline of communication. Designed to help students in communication become more intelligent consumers of research and investigative inquiry, and to become more adept at designing their own research projects. Includes information gathering, structuring inquiry with qualitative and quantitative research designs, and processing and reporting information. Prerequisite: junior standing and Comm. 130Q or instructor's consent.

535. Communication Analysis and Criticism. (3). An introduction to the methods used for the analysis and critique of various linguistic, pictorial and aural elements of communication for the purpose of becoming more discerning consumers of the various forms of public and mass-mediated messages. Analysis will include print advertisements, radio and television messages, newspaper features and public speeches. Prerequisite: junior standing and Comm. 301 or instructor's consent.

530. Communication Law and Responsibility. (3). Emphasizes both oral and written aspects of communication law and responsibility. Addresses general functions of the law including the right to communicate, broadcast law and the press. Includes discussion of the first amendment rights, libel, privacy, copyright, advertising, obscenity, pornography and corporate communication concerns. Prerequisites: junior standing and Comm. 130Q or departmental consent.

631. Historical and Theoretical Issues in Communication. (3). Examines the development of various issues in communication in historical context. Emphasizes different humanistic and scientific theories of communication and the historical development of mediated communication. Uses selected theories to generate critiques of specific communication events. Prerequisite: junior standing and Comm. 130Q or instructor's consent.

Lower-Division Courses
01L. Reducing Fear of Speaking. (2). Designed for students who feel an unwarranted degree of fear, nervousness or stage fright when confronting situations calling for oral communication, especially but not exclusively, before groups of people. Goal is to reduce the fear of speaking, the anxiety of public speaking in supportive settings and other specific methods developed in the fields of counseling and speech communication that have been demonstrated effective in reducing communication anxiety.

111. Public Speaking. (3). A study of basic concepts of speech communication as applied to public speaking. For students wishing to enhance leadership potential by improvement in traditional public speaking situations. (The University's requirement in oral communication must be fulfilled by completion of Comm. 111. For especially qualified students, an exemption or advanced standing examination is available. For further information, contact the Eliott School of Communication.)

150. Debate Workshop. (2). Instruction in the theory and techniques of debate and preparation for debating the national high school debate topic. Not repeatable for credit. Prerequisite: departmental consent.

>190G. Introduction to Human Communication. (3). An exploration of several alternative frameworks by which humans cope with and control the communication environment. Use observational and experiential opportunities to discover the variety of patterns used by humans to symbolically interact with themselves, each other and entire cultures. Utilizes multimedia instructional procedures.

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. May not be counted toward a major. Prerequisite: departmental consent.


214. Audio Production. (3). Production and direction of audio programs. Hands-on use of all standard audio production equipment to learn techniques of sound blending and reproduction. Prerequisite: Comm. 204.

220Q. Introduction to Film Studies. (3). Division A course/elective. Emphasizes 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.
221Q. Oral Interpretation. (3). Cross-listed as Thea. 221Q. Division A course/elective. The development of the mental, vocal and analytical techniques essential to the oral interpretation of literature.

222. Improving Voice and Diction. (3). Cross-listed as Thea. 222. For students wishing to improve their speaking voices and gain greater control over their pronunciation of spoken English. 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.

226. Parliamentary Law and Procedure. (1). The principles and rules governing the ordering and conduct of meetings and the methods of keeping and writing minutes and resolutions.

240. Introductory Photojournalism. (3). 2R; 3L. Lab fee. Basic photographic theory and technique emphasizing aspects of importance to journalists, writers and editors. Students take, develop and prepare pictures for publication. The department provides a limited number of cameras. Prerequisite: Comm. 301.

290. Listening Strategies. (3). Provides students with an understanding of the process of listening in a variety of configuration settings. Aids students in improving listening in the classroom, interpersonally, and professionally. Course examines listening myths and barriers to effective listening, encourages growth in positive listening attitudes and behaviors. Prepares students for professional as well as personal lives in which they will spend more time listening than any other type of communication. Prerequisite: Comm. 111 or departmental consent.

Upper-Division Courses

302. Interpersonal Communication. (3). Develops an awareness of the elements of interpersonal communication and aids the student in establishing more meaningful and effective interpersonal relationships, both personally and professionally.

304. Studio Video Production. (3). Basic principles, procedures and techniques of video production, including operation of studio equipment and direction of television programs and other video productions. Prerequisite: Comm. 214 or instructor's consent.

311. Persuasive Speaking. (3). Training in influencing human behavior in socially acceptable ways via the spoken word. Prerequisite: Comm. 111.

312Q. Nonverbal Communication. (3). Division B course/elective. 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: Comm. 111.

313Q. Argumentation and Advocacy. (3). Division A course/elective. 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.

320. Cinematography. (3). A production course in motion picture making. Emphasizes theory and technique with practical experience in conception and the use of camera and editing equipment for film projects.

324. Introduction to Advertising. (3). Survey of advertising fundamentals and practices, including copywriting, layout, visualization, market research and packaging. Prerequisite: Comm. 301 or department consent.

328Q. Teamwork, Leadership and Group Communication. (3). Division B course/elective. A study of the nature and functions of groups and the development of skills for identifying and evaluating communication behavior in small group situations with special emphasis on the dynamics of teamwork and group leadership.

332. Writing for Electronic Media. (3). Writing formats, commercials, continuity and drama for the electronic media, including audio and video programs and productions. Prerequisite: Comm. 301 or instructor's consent.

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: Comm. 240.

349. Hostage and Crisis Negotiations. (3). Cross-listed as AY 349. An introductory course focusing upon the study of negotiation and management and techniques appropriate to the handling of hostage negotiations, barricaded subject negotiations and other exigent situations such as suicide and violent domestic disturbances. Examines the use and training of special tactical and negotiations teams are examined. Prerequisites: AY 100 and Comm. 302 or equivalent or instructor's consent.

350. Introductory Public Relations. (3). An introduction to the theory and practice of professional public relations. Includes the role of persuasion and public opinion in public relations, the tools used in planning and evaluating communication and specialized publics. Prerequisite: Comm. 301.

401. 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: Comm. 301.

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 forensic squad meetings. Repeatable for a maximum of four hours credit. May not be counted toward a major. Prerequisite: departmental consent.

422. Broadcast News. (3). Theory and techniques of preparing news for the electronic media, including preparation of newscasts and news reports for radio and television. Prerequisite: Comm. 401 or instructor's consent.

440. Advanced Photojournalism. (3). 3R; 3L. Lab fee. Advanced photographic theory and technique emphasizing 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 department's laboratory facilities, students shoot, process and print photographs for publications. Prerequisite: Comm. 240.

481. Cooperative Education. (1-4). Credit for cooperative work 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, but limited to a total of four credits. Prerequisite: Departmental consent. Graded CR/NC.

Courses for Graduate/Undergraduate Credit

500. Advanced Reporting I. (3). 1R; 4L. For juniors and seniors; the techniques of reporting and writing the more complex and important types of news stories. Covers police beat stories, sports and economic reporting and includes practical skills in journalistic interviewing. Prerequisites: junior standing, Comm. 301 and either 401 or 422.

502. Public Information Writing. (3). Uses basic journalistic skills of clear, precise writing to communicate effectively with various audiences. Students write press releases, speeches and popularizations of complex documents. Techniques learned in this course are valuable in preparing grant proposals, committee reports, pamphlets and journal articles. Prerequisite: Comm. 301 with a grade of C or better, junior standing or departmental consent.

510. Editing for Print. (3). Selection, evaluation and preparation of copy and pictures for publication. Covers copy editing, rewriting, headline and caption writing and page layout. Prerequisite: junior standing and Comm. 301 with a grade of C or better.

522. Advanced Broadcast News. (3). 3R; 3L. Advanced techniques of preparing news for radio and television presentation emphasizing actual work in radio and television newrooms. Lab periods arranged with instructor. Prerequisite: Comm. 422.

525. Advertising Copywriting. (3). Detailed practice at writing various kinds of advertising copy, including print and broadcast forms. Emphasizes terse, precise writing that evokes response sought by advertiser. Prerequisite: Comm. 324 or departmental consent.

526. Media Buying and Selling. (3). Principles, methods, and strategies of buying and selling media for advertising, including such topics as study of reach and frequency of the various mass media and specialized media, budgeting, research, rates, market share and other tools of current buying and selling strategies. Prerequisite: Comm. 324 or instructor's consent.

530. Media Performance. (3). Provides experi-
ences in various areas of electronic media performance, including newscasts, radio drama, interviews, sports and commercials. Extends through simulated experiences as well as on-air work, student performance skills, capabilities and knowledge of audio and video media. Prerequisite: Comm. 111 and 221Q, 222 or Thea. 243.

550. Editorial Writing. (3). A study of editorial judgment, including practice in the writing of editorials and editorial page features and a study of research materials available to editorial writers. Prerequisites: Comm. 301 and junior standing.

570. Magazine Production. (3). Magazine production, including the choosing of subjects, approaches and illustrations; the shooting and editing of photographic stories; layout; the handling of production and management concerns. Prerequisite: Comm. 301 and 510 or departmental consent.

571. Magazine Writing. (3). Writing for magazines; emphasizes analyzing the market and patterning articles to fit the needs of specific magazines. Prerequisite: Comm. 301 and departmental consent.

581. Communication Practicum. (1-3). Application of theory, principles and practices to professional settings where students work under instructor supervision to continue their professional preparation in various areas of media and communication. Prerequisite: Comm. 301 and instructor's consent.

604. Field Video Production. (3). Application of video equipment and techniques for field productions. Execution of visual and audio expression, with planning for effective video productions in a field setting. Prerequisite: Comm. 304 or instructor's consent.

607. Electronic Media Programming. (3). Planning, developing and scheduling based upon audience and market analysis, program ratings, principles of evaluation and criticism.

609. Interactive Media Production. (3). Investigation and application of production techniques for educational and instructional broadcasting, emphasizing television. Prerequisite: Comm. 304.

611. Media Management. (3). A study of the business and management operations of the mass media to give journalism students and understanding of the interrelationships in mass media enterprises. Prerequisite: junior standing or departmental consent.

622. Practicum in Broadcast Journalism. (3). Reporting and writing about events in the University and community. Story assignment and preparation under the instructor's guidance; story broadcast over WSU Cable Channel 13. May be repeated for credit with advisor's consent. Prerequisite: Comm. 522 or instructor's consent.

625. Public Relations Campaigns. (3). Instruction and practice in planning and developing total public relations campaigns. Prerequisite: Comm. 350 and 502 or instructor's consent.

626. Advertising Campaign Research. (2).

Introduction to primary and secondary research for advertising campaign development. Includes empirical approaches, market analysis, advertising evaluation, product and market testing, consumer analysis, questionnaire construction, and methods of sampling. Prerequisite: Comm. 324 or instructor's consent.

627. Advertising Campaign Production. (2). Work in this course builds on research conducted for the student's advertising campaign and developing a complete advertising campaign. Student will design and develop a national campaign and an audio-visual presentation for the regional and national collegiate competition sponsored by the American Advertising Federation. Prerequisite: Comm. 626 or instructor's consent.

632. American Public Address. (3). A detailed study of notable American speakers and their public utterances. Their impact on the political, economic and social history of this nation from colonial time to the present is assessed.

635. Leadership Techniques for Women. (3). Cross-listed as Wom. S. 635. Provides the student experience in making decisions and improves skills in leadership through role playing and exercise in group dynamics.

636. Advanced Public Speaking. (3). Theory and application in the various forms of public speaking for the academically mature student. Includes such special forms as the after-dinner speech and speeches of goodwill, tribute, keynote and courtesy.

650. Communication Training and Development. (3). An examination of communication concepts, processes, technologies and strategies related to training and development. Course includes the application of these elements to formal instruction across disciplines and at various educational levels as well as in most professional training settings.

660. Seminar in Communication. (1-3). Special seminars dealing with current problems, issues or interests in various areas of communication. Repeatable for credit in different topics only.

661. Directing the Forensics Program. (3). A study of the methods and procedures in coaching and directing the high school and collegiate forensic programs (debate and individual events). The future teacher is made aware of the literature and professional organizations in the field.

665. Communicative Disorders. (3). Cross-listed as CDHS 705. A survey and analysis 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. Provides background in normal communicative structures, processes and acquisition for understanding communicative disorders. Areas introduced include language disabilities in children, adult aphasia, articulation disorders, voice disorders, cleft palate, laryngeal cysts, stuttering, cerebral palsy and hearing impairment.


690. Communication Internship. (1-2). Credit for professional experience that integrates theory with a planned and supervised professional experience designed to complement and enhance academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated, but limited to a total of four credits in Comm. 690 and Comm. 481. Graded Cr/Nr. Prerequisite: departmental consent.

702. Contemporary Theories of Communication. (3). Study selected conceptual models useful in the academic study of human communication, including theories involving such contexts as interpersonal communication, public communication and mass communication.

712. Advanced Interpersonal Communication. (3). 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: Comm. 302 or instructor's consent.

715. International Communication Systems. (3). A comparative study of communication systems around the world, including print media, broadcasting, and new technologies. Examines the relationship between communication systems and the different social, cultural, and political contexts in which they exist, and explores some of the international conflicts that have arisen from these differences. Prerequisite: senior standing.

720Q. Dimensions of Mass Communication. (3). Division B course/elective. A detailed study of mass media, their role as social institutions; their control, support, content and audience; and their effects.

722. The Art of Conversation. (3). Conversation is the form of communication people engage in most naturally and frequently, but about which they seldom think seriously. Course helps participants enhance their understanding and appreciation of, as well as their skill in, the art of conversation. Includes the nature of conversation, principles of conversational communication, types of conversation, conversation in the media and conversation analysis. Prerequisites: Comm. 302 and junior standing or departmental consent.

737. Processes and Effects of Mass Communication. (3). An exploration into the effects of mass communication at the individual social and cultural levels.

750. Workshops in Communication. (1-4).

770. The Audience. (3). Application of research techniques to the measurement of audience behavior emphasizing mass media audiences. Includes focus group interviews, survey research and radio and television ratings.

Courses for Graduate Students Only

801. Introduction to Communications Research. (3). An integrative approach to an understanding of the nature and scope of com-
munication research and graduate studies in communication and theatre/drama. Provides an overview of current research in the discipline. Instruction in the basic steps of research; availability of library and other sources; bibliographic search; computer accessing of source materials; organization, style, and format of a research report and citation of sources in accordance with standard style guides. Course should be taken at the beginning of the graduate program.

802. Historical and Qualitative Methodologies in Communication Research. (3). An introduction to historical, critical and observational methodologies in communication research. Emphasizes historical, critical and observational research, particularly those forms of research common to communication studies. Prerequisite: Comm. 801.

803. Empirical/Quantitative Research Methodology in Communication. (3). An introduction to empirical research methods in communication. Emphasizes both experimental and nonexperimental research, particularly those forms of research common to communication studies. Studies research design, methods and reporting techniques. Prerequisite: Comm. 801.

820. Investigation and Conference. (2-3). Cross-listed as Thea. 820. Directed research and experimentation for graduate students in some phase of (a) speech communication, (b) electronic media or (c) speech education. Repeatable for credit up to a total of six hours.

830. Theories of Rhetoric Classical, (3). Cross-listed as Eng!. 825. An intensive study of the rhetorical theories of classical writers from 466 B.C. to the decline of Roman oratory. Principal emphasis on Isocrates, Plato, Aristotle, Quintilian, Cicero and Longinus.

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. Analyzes the rhetorical systems associated with such figures as Augustine, Felenon, Bulver, Sheridan, Steale, Rush, John Quincy Adams, Blair, Campbell and Whately.

860. Seminar in Communication. (1-3). Special seminars dealing with current problems, issues or interests in various areas of communication. Repeatable for credit in different topics only.

865. Organizational Communication. (3). Cross-listed as Mgmt. 665. An analysis of communication models emphasizing their applications to communication problems in organizations. Explores social psychological processes underlying persuasion in interpersonal relations and through the mass media. Critically analyzes communication systems and techniques within formal organizations.

870. Directed Study. (1-3). Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

875-876. Thesis. (2-2).

Communicative Disorders and Sciences

For students desiring an emphasis in applied language study, see requirements and curriculum for a major in communicative disorders and sciences through Fairmount College of Liberal Arts and Sciences listed in the College of Education section of the Catalog.

Computer Science

The Department of Computer Science offers a broad and flexible curriculum that emphasizes core computer science technologies and their applications.

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 business, industry or government. The BS degree also provides a good preparation for graduate study in computer science or related areas.

Major: Bachelor of Science (BS)

1. Computer Science: The following computer science courses are required: 210, 300, 312, 320, 410, 420, 440, 510, 540, 560 and 585.

In addition, students must complete 15 hours of advanced electives in computer science. These 15 hours of associated course work give students depth and breadth of knowledge, beyond what they receive in the required courses, by exposing them to advanced courses in some of the major areas in computer science. The advanced courses fall in six areas—artificial intelligence, software engineering, theoretical computer science, computer systems, computer hardware and scientific, numeric and symbolic computation.

The student must complete 15 hours of course work in three or four areas. All advanced electives must be approved by the departmental academic advisor.

2. Mathematics: The following mathematics courses are required: Math. 242Q, Math. 243, Stat. 460 and either Math. 344 or Math. 511. Math. 243 should be taken before any computer science course numbered 400 or above.

3. Others: In addition, the following courses also are required: Soc. 301, Computers and Society (3 hours), and Phil. 354, Ethics and Computers.

4. All students graduating with a BS in computer science must also take the Major Field Achievement Test in computer science during the final semester of their senior year.

Major: Bachelor of Arts (BA)

1. Computer Science: The following computer science courses are required: 105, 210, 300, 312, 320, 410, 420, 440, 510, 540 and 585.


3. Others: In addition, the following courses also are required: Phil. 354, Ethics and Computers; Eng!. 210; and Soc. 301, Computers and Society.

In addition, students must complete 15 hours of sequence electives. These courses may be in software engineering, systems analysis, or some application area such as accounting or business administration. Other choices are also available. All sequence electives must be approved by the departmental academic advisor.

Minor

Students are required to complete a minimum of 15 hours of Computer Science courses. The following courses are required: 210, 300, 312.

Choose an additional four to six hours of computer science coursework, including at least one course numbered 300 or above.

Example Schedule for BS in Computer Science

Freshman Year
Eng!. 101, College English I ........... 3
Math. 242, Calculus I .................. 3
Natural science Q/G (biology) ............. 4
Comm. 111, Public Speaking ............ 3

Sophomore Year
Eng!. 102, College English II ....... 3
CS 210, Introduction to Computer Science .......... 3
Math. 243, Calculus II .................. 3
Elective ........................................ 4

Sophomore Year
CS 300, Data Structures and Algorithms I ... 3
CS 320, Discrete Structures in Computer Science .... 3
Math. 344, Calculus III, or 511, Linear Algebra ... 3
Natural Science Q/G .................. 3
Soc. 301, Computers and Society ............. 3

Second Semester
CS 312, Assembly and Systems Programming .. 3
CS 410, Programming Paradigms ....... 3
Hist. 131Q or 132Q or Pol. S. 121Q .......... 3-4

Juniorn Year
CS 440, Computer Organization and Architecture .................. 4
CS 510, Programming Language Concepts .................. 3
Humanities Q/G (literature) .................. 3
Natural Science .................. 3
Elective .................. 4

Second Semester
CS 420, Automata and Formal Languages .................. 3
CS 420, Automata and Formal Languages Concepts .................. 3
Social and Behavioral Science .................. 3
Humanities Q/G (Literature) .................. 3
Natural science Q/G (Biology) .................. 4

Junior Year
CS 410, Programming Paradigms .................. 3
CS 440, Computer Organization and Architecture .................. 4
Engl. 210, Business/Technical Writing .................. 3
Natural Science Q/G .................. 3
Soc. 301, Computers and Society .................. 3

Second Semester
CS 510, Programming Language Concepts .................. 3
Computer Science Sequence Elective .................. 3
Humanities Q/G .................. 3
Phil. 354, Ethics in Computers .................. 3
Natural Science (non-biology) .................. 4

Senior Year
CS 585, Software Design and Testing .................. 2
CS elective .................. 3
CS elective .................. 3
Humanities or social and behavioral science* .................. 3
Natural science (non-biology) .................. 1
Elective .................. 4

*Choice depends on Am. Govt. selection.

Example Schedule for BA in Computer Science
Freshman Year
Engl. 101, College English I .................. 3
CS 105, Introduction Computers and Applications .................. 3
Math. 111, College Algebra .................. 5
Foreign Language .................. 5

Second Semester
Engl. 102, College English II .................. 3
CS 210, Introduction to Computer Science .................. 4
Stats 370, Elementary Statistics .................. 3
Foreign Language .................. 5

Sophomore Year
CS 300, Data Structures and Algorithms I .................. 4
CS 320, Discrete Structures in Computer Science .................. 3
Math. 144, Business Calculus .................. 3
Foreign Language .................. 5
Comm. 111, Public Speaking .................. 5

Second Semester
CS 312, Assembly and Systems Programming .................. 3
CS 440, Computer Organization and Arch .................. 4
Engl. 210, Business/Technical Writing .................. 3
Natural Science Q/G .................. 3
Soc. 301, Computers and Society .................. 3

Second Semester
CS 540, Operating Systems .................. 3
CS elective .................. 3
CS elective .................. 3
Humanities Q/G .................. 3
Social and behavioral science Q/G .................. 3

Note: Students must complete Engl. 100 or 101 and Math. 112 with a C or better or have equivalent CLEP or transfer credit before taking any computer science course towards the BS degree. CS 105 for nonmajors and BA candidates is an exception to this requirement.

Programming Courses: No credit toward BS Degree in Computer Science
201. FORTRAN Programming. (3). 2R; 2L. Fundamentals of computer programming in FORTRAN and their application to problems. No credit toward the BS major in Computer Science. Prerequisites: Engl. 101 and Math. 111 or 112, or equivalents, with grade of C or better, or departmental consent.

205. COBOL Programming. (3). 2R; 2L. Fundamentals of computer programming in COBOL and their application to problems. No credit toward the BS major in Computer Science. Prerequisites: Engl. 101 and Math. 111 or 112, or equivalents, with grade of C or better, or departmental consent.

206. BASIC Programming. (3). 2R; 2L. Fundamentals of computer programming in BASIC and their application to problems. No credit toward the BS major in Computer Science. Prerequisites: Engl. 101 and Math. 111 or 112, or equivalents, with grade of C or better, or departmental consent.

207. C Programming. (3). 2R; 2L. Fundamentals of computer programming in C and their application to problems. No credit toward the BS major in computer science. Prerequisites: A grade of C or better in a high-level programming language course, or departmental consent.

217. C++ Programming. (3). 2R; 2L. Fundamentals of object-oriented programming in C++ with applications to problems. No credit toward the BS major in computer science. Prerequisite: CS 207 or departmental consent.

Lower-Division Courses
>105. An Introduction to Computers and their Applications. (3). 2R; 3L. A computer literacy course designed to give students an introduction to the historical development of the computer; uses of the computer in business, industry, government, education, and the home; hardware components of a computer system; data representation; system analysis and design; issues of ethics posed by technology, and an indication of future trends for computers. The laboratory section includes hands-on experience with a microcomputer and standard commercial software packages including word processing, spreadsheet, databases, and some acquaintance with BASIC language. No credit granted toward the BS degree in Computer Science. Prerequisites: some familiarity with typewriter keyboard and minimal typing skills.

150. Workshop. (1-5). Short-term courses focusing on new computer techniques. Repeatable for credit. Prerequisite: departmental consent.

210. Introduction to Computer Science. (4). 3R; 2L. An introduction to basic computer concepts in hardware and software, evolution of computers, number systems and the process of analyzing problems and designing solutions in a structured high-level programming language. Prerequisites: Engl. 101, Math. 111, 112 or equivalent with a grade of C or better in each.

Upper-Division Courses
300. Data Structures and Algorithms I. (4). 3R; 2L. Basic data structures and associated algorithms. Includes stacks, queues, linked lists, trees and graphs. Algorithms are analyzed for efficiency and correctness. Prerequisite CS 210 with a grade of C or better.

312. Assembly Language and Systems Programming. (3). 3R; 1L. Fundamentals of assembly language programming. Includes assembler, text editor, arithmetic, machine instructions, macros, code view debugger and
memory segments. Programming assignments reinforce textbook knowledge. Prerequisite: CS 210 with a grade of C or better.

320. Discrete Structures in Computer Science. (3). Deals with discrete structures relevant to computer science, including propositional and predicate logic, proof techniques, recursion, induction, and analysis of algorithms; sets and combinatorics; counting principles, permutations and combinations, the binomial theorem; partially ordered relations, equivalence relations; functions: one-to-one onto functions; matrices; graphs and trees. Prerequisite: CS 210 with a grade of C or better.

350. Workshop. (1-5). Short-term courses with special computer science emphases. Repeatable for credit. Prerequisite: departmental consent.

365. Introduction to Computer Graphics. (3). 2R; 2L. An introduction to interactive computer graphics which presents the basic concepts of the field. Includes 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 provides practical experience. Prerequisite: CS 300.

410. Programming Paradigms. (3). 3R; 1L. Exposure to computer programming in various styles of languages. Emphasizes programming rather than theory. Prerequisites CS 300 and 320 with a grade of C or better in each.

420. Automata and Formal Languages. (3). Finite automata, regular expressions, pushdown automata, context-free languages, Turing machines, and formal grammars. Prerequisites: CS 320 with a grade of C or better.

440. Computer Organization and Architecture. (4). 3R; 2L. A study of basic computer hardware, organization and architecture. Includes number representation, arithmetic, binary logic, circuit design, communication between major computer components, instruction processing cycle, system design, addressing techniques and the concepts of microprogramming. Hardware laboratory demonstrates the concepts. Prerequisites: CS 300 and 312 with a grade of C or better in each.

481. Cooperative Education in Computer Science. (1-3). Provides 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. Prerequisite: departmental consent. Offered CS/NT only.

497. Special Topics. (1-3). Special topics of current interest in computer science. Prerequisite: departmental consent.

498. Individual Projects. (2-3). Repeatable for a total of six hours of credit. Graded S/U only. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit


510. Programming Language Concepts. (3). Theoretical concepts in the design and use of programming languages, including scope of declarations, storage allocation, subroutines, modules, formal methods for the description of syntax and semantics. Introduction to the concepts of different styles of languages—imperative languages, functional languages, object-oriented languages, etc. Prerequisite: CS 410 with a grade of C or better.

540. Operating Systems. (3). 3R; 1L. Covers the fundamental principles of operating systems: process synchronization, scheduling, resource allocation, deallocation, memory management, file systems. Studies operating systems in depth. Programming assignments consist of modifications and enhancements to the operating system studied. Prerequisite: CS 410 and 440 with a grade of C or better in each.

560. Data Structures and Algorithms II. (3). 3R; 1L. Design and analysis of algorithms. Techniques for design and analysis of algorithms and proof of correctness. Analysis of space and time complexities of various algorithms including several sorting algorithms. Hashing, binary search trees and height balanced trees. Algorithm design techniques including divide and conquer, greedy strategies, and dynamic programming. Elementary graph algorithms. Prerequisites: CS 300, CS 320; and Math 344 or 511, and Stats. 460 with a grade of C or better in each.

585. Software Design and Testing. (2). 2R; 1L. Program design tools and techniques and program testing with an emphasis on large maintenance. Projects include paper and overhead design, various design paradigms, bottom-up and top-down testing techniques. Emphasizes large programming systems, illustrated by several programming projects. Prerequisite: CS 410 with a grade of C or better.

612. Systems Programming. (3). 2R; 2L. A study of system software including assemblers, disassemblers, macroprocessors, link editors, loaders, language translators and debuggers. Practical experience in building and maintenance system software through programming laboratory exercises. Prerequisite: CS 300 and 312 with a grade of C or better.

615. Compiler/Interpreter Techniques. (3). 2R; 2L. Review of programming language structures, translation and interpretation. Compilations of simple expressions and statements. Overall design and organization of compilers and interpreters, including lexical and syntactic scan, construction of symbol table, object code generation, diagnostic error messages and optimization techniques. Prerequisite: CS 510 or equivalent with a grade of C or better.

632. Symbolic Computation with LISP. (3).

An in-depth study of LISP as a functional programming language with its application to artificial intelligence, polynomial computation and theorem proving. Complete substantial programming projects in LISP. Prerequisites: Math 243 with a grade of C or better; and CS 300 and CS 320 with a grade of B or better in each; or CS 410 or CS 560 with a grade of C or better; or departmental consent.

665. Data Base Design. (3). Principles of data base design and management for computer information systems. Examines several logical organization and file design techniques. Also discusses problems of security and integrity of data. Prerequisite: CS 300 and 320 with a grade of C or better.

674. Artificial Intelligence and Philosophy. (3). Cross-listed as Phil. 674. 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 computation and the mind is a computer" is contrasted with "there are mental features not accessible to computation." Discusses the relevance of Godel's theorem and of other results in the domain of computability. Prerequisites: at least one 300-level 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 must be earned in each prerequisite.

680. Introduction to Software Engineering. (3). 2R; 2L. An introduction to the body of knowledge, presently available tools and current theories and conjectures regarding the process of program development. Studies these topics from several different viewpoints, ranging from the individual program statement to a large programming project. Prerequisite: CS 585 with a grade of C or better.

684. Applications Systems Analysis. (3). A study of the methods for analyzing business systems problems and other large-scale applications of the computer. At the crossroads of computer technology, management science and human relations, systems analysis is the keystone in the education of the well-trained computer applications analyst. Includes systems design, cost benefit analysis, data base design, program development, project management and documentation. Prerequisite: CS 300 with a grade of C or better.

697. Selected Topics. (1-3). Selected topics of current interest. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

720. Theoretical Foundations of Computer Science. (3). Provides an advanced level introduction to the theoretical bases of computer science. Computer science theory includes the various models of finite state machines, both deterministic and nondeterministic, and concepts of decidability, computability and formal language theory. Prerequisite: CS 420 or equivalent with a grade of C or better or graduate standing.
2R: 2L. Introduction to computer communication networks, including network goals, data transmission, network topologies, connectivity analysis, delay analysis for networks of M/M/1 queues, network architectures, protocol hierarchies, design issues for the layers and the ISO reference model and protocol descriptions for present computer communication networks. Prerequisite: CS 440 with a grade of C or better or departmental consent.

750. Workshop in Computer Science. (1-5).
Short-term courses with special focus on introducing computer science concepts. Repeatable for credit. Prerequisite: departmental consent.

771. Artificial Intelligence. (3). Heuristic versus algorithmic methods, principles of heuristic approach and cognitive processes. Also covers objectives and methods of artificial intelligence research and simulation of cognitive behavior. Includes a survey of appropriate examples from various areas of artificial intelligence research. Prerequisite: CS 300.

776. Expert Systems. (3). Planning, construction and application of expert systems. Discusses major aspects of expert systems; illustrates with various examples, including data representation, knowledge bases, inference engines, user interfaces, explanatory facilities, metarules and dealing with uncertainty. Introduces basics of a production system language. Prerequisite: CS 410 with a grade of C or better or instructor's consent.

798. Individual Projects. (1-3). Allows beginning graduate students and mature undergraduate students to pursue individual projects of current interest in computer science. Graded S/U only. Prerequisite: departmental consent.

Courses for Graduate Students Only

No computer science graduate students will be admitted to 800-level courses until they have completed CS 720.


821. Analysis of Algorithms. (3). Introduction to the techniques used to analyze both specific algorithms and classes of algorithms. Covers popular models, including Knuth's Mix and random access machine. Studies specific techniques, such as divide-and-conquer, recurrence equations and dynamic programming. Analyzes applications to set operations, hashing, graph searching, transitive closure and partitioning. Prerequisites: CS 560 and either 420 or graduate standing.

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. Studies architectures of typical systems belonging to the IBM, CDC and Burroughs families of computers. Prerequisite: CS 540.


843. Distributed Computing Systems. (3). A study of hardware and software features of online multiple computer systems emphasizing network design and telecommunications. Includes distributed data bases, interprocessor communication and centralization versus distribution. Also includes study of the use of microcomputers in representative configurations. Prerequisites: CS 540 or 641 or EE 694.

862. Principles of Data Base Design. (3). An advanced treatment of the principles of data base design. Addresses logical design, including relational model; physical design, including new technological advances in implementing very large data bases; security and integrity of data and distributed data base networks. Prerequisite: CS 560.

872. Machine Learning and Discovery. (3). An advanced study of computer programs that learn, improve performance and make discoveries. Includes objectives, methods and research paradigms for such systems, a survey of existing methods and applications, including the most 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. Includes participation in a group project such as developing a computer learning system. Prerequisites: CS 771 or 776 or 214 and 374, or CS 214 and 773.

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. Covers two-dimensional Fourier analysis, scene matching and understanding, texture, motion, shape recognition, relational image structure and human perception. Prerequisite: CS 773 or instructor's consent.

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 simulation models, simulation with high-level programming languages and simulation with GPSS. Prerequisites: CS 350 or AE 327, Math. 344 and Stat. 571 or EE 354.

881. Software Specification and Design. (3). A detailed presentation of the techniques and tools available for the specification of software requirements and their translation into a design. Includes formal specification and design methods such as structured analysis, object-oriented design and JSD. Prerequisite: CS 680.


886. Software Project Management. (3). Presents the knowledge, techniques and tools necessary to manage the development of software products. Topics include the phases and activities involved in building a project, the skills and tools required for estimating and scheduling and the responsibilities of the individuals involved. Prerequisite: CS 680.

889. Topics in Software Engineering. (3). An in-depth study of one or 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 680.

890. 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 adviser. Repeatable up to four credit hours. Graded S/U only. Prerequisite: departmental consent.

891. 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 departmental seminar where their practicum experiences are shared with other students and faculty. Graded S/U only. Prerequisite: departmental consent.

892. Thesis. (1-6). May be repeated for up to six hours of credit. Graded S/U only. Prerequisite: departmental consent.

893. Individual Reading. (1-5). Graded S/U only. Prerequisite: departmental consent.

898. Special Topics. (2-3). Topics of current interest to advanced students of computer science. Repeatable for credit with departmental consent. Prerequisite: departmental consent.
Economics

Major. The economics major in Fairmount College of Liberal Arts and Sciences requires a minimum of 31 hours and a maximum of 41 hours in economics. Math. 144 or Math. 242Q is required. Students who plan to major in economics should consult with the undergraduate adviser in the Department of Economics in Clinton Hall. Students in this major or minor must achieve a minimum 2.25 GPA. The following courses are required:

Course Hrs
Math. 144, Business Calculus or Math. 242Q, Calculus I .................. 3
Econ. 201Q and 202Q, Principles of Economics I and II .............. 6
Econ. 231, Introductory Business Statistics .................. 4
Econ. 301, Intermediate Macroeconomics .................. 3
Econ. 302, Intermediate Microeconomics .................. 3
Econ. 340, Money and Banking .................. 3
Upper-division electives .......... 12
Math. 144, Business Calculus or Math. 242Q may be taken as part of the Fairmount College requirements.

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. 101Q, 102Q 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 Barton School of Business section of the Catalog.

English Language and Literature

English Language and Literature

The English department offers a broad and flexible program of courses that are central to a liberal education while offering students the opportunity for personal enrichment and a variety of career possibilities. The department offers degree programs in creative writing, literature and English teaching, as well as a range of courses in linguistics. Students who combine an English major with substantial work in other disciplines will find the knowledge and communications skills acquired in their work in English a valuable asset as they seek entrance into a wide range of fields that include communications, education, government, law and even business.

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 (21 hours)
   - Eng. 272Q, 310, 320Q or 330Q, 360, 361, 362Q, 274 or 315

II. Major Requirements (12 hours with at least 6 upper-division) from

Minor. A minor consists of 15 hours and requires Eng. 310, 320Q or 330Q and at least six hours of upper-division work. Eng. 101 and 102 are not counted toward a minor. A number of minors have been specially designed to support majors in other fields; for further information, contact the chairperson of the English department.

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. 285Q (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) from Eng. 311, 333, 301, 403, 517, 518, 585, 586, 604, 605 (all of these courses may be repeated once for credit) or University Honors English courses (1-3)

IV. Electives (at least 6 hours)
   - Upper-division hours from any

Other area of emphasis within the department

*Prerequisites for all other English courses unless special permission is granted.

Minor. A minor with a creative writing sequence is available and consists of 15 hours of course work in creative writing (Engl. 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)
   - A. Foundations: English 272Q, 310, 320Q or 330Q and 340Q
   - B. British and American literature; Eng. 362Q or 503, 252Q or 504, 360 or 361
   - C. Cross-cultural language/literature: Eng. 342, 345, 365 or 672
   - D. Literature for adolescents: CI 616

IV. Other (6 hours)
   - A. Theatre 143G and 221Q

V. Electives (6 hours)
   - Six hours in English, in certifiable minor

*Prerequisites for all other English courses unless special permission is granted.

Composition

Noncredit Courses

011. Syntax, Logic and Organization. (3). Offered Cr/NCr only. Reviews the basic elements of written English. Combines lecture, small-group discussion and individual tutoring. For students whose ACT-English scores or placement test scores do not qualify them for Engl. 101. Credit not applied for graduation.

013. Basic Skills for ESL I (3). Offered Cr/NCr only. Teaches the fundamental elements of
written and spoken English, emphasizing the acquisition of basic grammatical and syntactical structures and the writing of paragraphs.

015. Basic Skills for ESL II. (3). Offered Cr/NCr only. Extends the skills developed in Eng. 013. Students continue to practice using basic grammatical and syntactical structures, work on reading comprehension skills, and move from the writing of paragraphs to short essays. Prerequisite: Eng. 013.

Lower-Division Courses

100. English Composition. (3). A required composition course for non-native-speaking students scoring below a certain level as determined by a departmental examination. Emphasizes reading, writing and thinking skills. Credit applied for graduation. Prerequisite: Eng. 013 or satisfactory score on placement test.

101. College English I. (3). Emphasizes reading, listening, writing and thinking abilities, as well as library skills. Prerequisite: qualifying score on ACT or placement exam.

102. College English II. (3). Emphasizes 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.

103. Reading, Thinking and Writing. (3). A third semester of English composition. Writing assignments based on literature read during the semester. Reading material varies with instructor, but generally follows a specific theme. Prerequisites: Engs. 101 and 102.

150. Workshop. (1-4). Repeatable for credit. Material varies according to the needs of students.

210. Composition: Business, Professional and Technical Writing. (3). Prerequisite: Engls. 101 and 102 or instructor's consent.

Upper-Division Course

481. Cooperative Education. (1-3). Provides 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/NrC only.

Courses for Graduate/Undergraduate Credit

680. Theory and Practice in Composition. (3). Introduction to theories of rhetoric, research in composition and writing programs and practices in schools and colleges. Students investigate the process of writing, analyze varieties and samples of school writing and develop their own writing skills by writing, revising and evaluating their own and others' work. Especially for prospective and practicing teachers; may not be taken for credit by students with credit in Eng. 780.

685Q. Advanced Composition. (3). Division A course/elective. Explores the relationships among contemporary issues, problem-solving and communication. The first objective 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 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: Engls. 101 and 102 and upper-division standing.

780. Advanced Theory and Practice in Composition. (3). For teaching assistants in English. Review of new 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.

Creative Writing

Lower-Division Course

285Q. Introduction to Creative Writing. (3). Division A course/elective. An introductory course; the techniques and practice of imaginative writing in its varied forms. Course may be used to fulfill the general education requirement only as an elective (Studio and Performance). Prerequisites: Engls. 101 and 102.

Upper-Division Courses

301. Creative Writing: Prose Fiction. (3). Repeatable for credit. Prerequisite: Engls. 285Q with a grade of B or better.

303. Creative Writing: Poetry. (3). Repeatable for credit. Prerequisite: Engls. 285Q with a grade of B or better.

401. Advanced Creative Writing: Prose Fiction. (3). An advanced course; develops the skilled practice of writing, rewriting and polishing prose fiction. Prerequisites: Engls. 285Q and at least three hours of Engls. 301.

403. Advanced Creative Writing: Poetry. (3). An advanced course; develops the skilled practice of writing, rewriting and polishing poetry. Prerequisites: Engls. 285Q and at least three hours of Engls. 303.

Courses for Graduate/Undergraduate Credit

517-518. Playwriting I and II. (3; 3). Cross-listed as Thea. 315 and 517. Not repeatable for credit.


Linguistics

Upper-Division Course

315. Introduction to English Linguistics. (3). Cross-listed as Ling. 315. Introduction to linguistic principles, including phonological and grammatical concepts.

Courses for Graduate/Undergraduate Credit

665. History of the English Language. (3). Cross-listed as Ling. 666. Historical investigation of the development of English. Prerequisite: Engls. 315 or departmental consent.

667. English Syntax. (3). Cross-listed as Ling. 667 and Anthr. 667. A study of the basic principles of English syntax, covering the major facts of English sentence structure and relating them to linguistic theory. Prerequisite: Engls. 315 or equivalent or departmental consent.

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: Engls. 315 or departmental consent.

**Literature**

**Lower-Division Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>220G</td>
<td>The Literary Heritage: English Masterpieces</td>
<td>(3). Division A course/elective. Introduces to the lower-division general student selections from the English masterpieces that constitute the literary heritage.</td>
</tr>
<tr>
<td>233</td>
<td>Books and Ideas</td>
<td>(3). Reading, discussing and some writing about literature from all periods and cultures (fiction, poetry, drama and essays). For non-English majors; not credited toward an English major or minor.</td>
</tr>
<tr>
<td>230G</td>
<td>Exploring Literature</td>
<td>(3). Division A course/elective. Perceptive reading of literature in its major traditional periods and in its various genres (especially fiction, drama and poetry). Deepens the appreciation and understanding of literature: what is it, 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.</td>
</tr>
<tr>
<td>232G</td>
<td>Themes in American Literature</td>
<td>(3). Division A course/elective. Instruction in perceptive reading through the study of representative works in American fiction, poetry, drama and the essay. Emphasizes understanding and appreciation of central themes and dominant ideas. Multimedia presentations (films, readings and recordings), which are closely correlated to the representative works being studied, amplify the scope and range of literature per se.</td>
</tr>
<tr>
<td>252G</td>
<td>Modern American Writers</td>
<td>(3). Division A course/elective. A survey of important works by major American writers since World War I.</td>
</tr>
<tr>
<td>254G</td>
<td>Modern British Literature</td>
<td>(3). Division A course/elective. A survey of important works by major writers of the British Isles including Ireland, in the 20th century.</td>
</tr>
<tr>
<td>272Q</td>
<td>Origins of the Western Literary Tradition</td>
<td>(3). Division A course/elective. A study of the literary forms that first appear in classical and Biblical literature and reappear in the English literary tradition. Readings from mythology, the classics and elected books of the Bible.</td>
</tr>
<tr>
<td>274</td>
<td>The Language of Literature</td>
<td>(3). An examination of the principles and problems of literary interpretation that are especially related to language structure.</td>
</tr>
<tr>
<td>275Q</td>
<td>Studies in Popular Literature</td>
<td>(3). Cross-listed as Anthr. 275Q. Studies various forms of popular literature (e.g., revolutionary literature, science fiction, western fiction, detective novel) emphasizing both the literary merit of the work and the way it reflects popular tastes and values. Repeatable for credit with change of content.</td>
</tr>
</tbody>
</table>

**Upper-Division Courses**

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<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>290Q</td>
<td>The Bible as Literature</td>
<td>(3). Division A course/elective. Studies the Bible as a literary artifact through extensive readings in both Old and New Testaments. Points out literary techniques and discusses their meaning for the manner of composition of the Bible.</td>
</tr>
<tr>
<td>307G</td>
<td>Narrative in Literature and Film</td>
<td>(3). Division A course/elective. A comparative aesthetic analysis of the art of narration in literature and especially in film.</td>
</tr>
<tr>
<td>310</td>
<td>The Nature of Poetry</td>
<td>(3). Acquaints the student with the variety of poetic forms and techniques. Notes contributions of culture, history and poetic theory as background to the works under study, but primarily emphasizes the characteristics of poetry as a literary communication.</td>
</tr>
<tr>
<td>320Q</td>
<td>The Nature of Drama</td>
<td>(3). Division A course/elective. Acquaints the student with drama as a form of literary expression. While introducing a variety of plays drawn from different cultures and historical periods, course focuses on the characteristics of drama, giving some attention to dramatic history and theory.</td>
</tr>
<tr>
<td>330Q</td>
<td>The Nature of Fiction</td>
<td>(3). Division A course/elective. Acquaints the student with narrative fiction in a variety of forms: the short story, short novel and novel. Covers works of fiction drawn from different cultures and historical periods; focuses on the characteristics of fiction, giving some attention to historical development and to theories of fiction.</td>
</tr>
<tr>
<td>336</td>
<td>Women's Personal Narratives</td>
<td>(3). Cross-listed as Wom. S. 330. Explores the literary genre of the journal as practiced by both historical and modern women. Works by well-known diarists and little-known notebook keepers will be examined. Students complete in-class and out-of-class assignments and will be encouraged to do daily work in a journal of their own. Prerequisites: Engl. 101 and 102.</td>
</tr>
<tr>
<td>340Q</td>
<td>Major Plays of Shakespeare</td>
<td>(3). Division A course/elective. For students who wish to study the best work of Shakespeare's career in one semester. Students who take this course may take Engl. 515 once for credit.</td>
</tr>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>342</td>
<td>American Folklore</td>
<td>(3). Cross-listed as Anthr. 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.</td>
</tr>
<tr>
<td>345</td>
<td>Studies in Comparative Literature</td>
<td>(3). Study of representative works in the western and ancient Near Eastern literary traditions emphasizing the contrastive 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.</td>
</tr>
</tbody>
</table>

**Courses for Graduate/Undergraduate Credit**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>360</td>
<td>Major British Writers I</td>
<td>(3). Covers the major British writers in the first half of the 19th century.</td>
</tr>
<tr>
<td>361</td>
<td>Major British Writers II</td>
<td>(3). Covers the major British writers in the second half of the 19th century.</td>
</tr>
<tr>
<td>362Q</td>
<td>American Writers of the 19th Century</td>
<td>(3). The study of the major works in the different genres by important American writers of the 19th century as they relate to the growth of a national literature.</td>
</tr>
<tr>
<td>365</td>
<td>African-American Literature</td>
<td>(3). A survey course; acquaints the student with the most significant African-American writers from the 1700s to the present. Covers early slave narratives and early slave poetry to the Harlem Renaissance; student reading and discussion and writing begin with the Harlem Renaissance and end with the 1970s. Prerequisites: Engl. 101 and 102.</td>
</tr>
<tr>
<td>400G</td>
<td>The Literary Imagination: The Tragic, Comic, Heroic, Satiric Modes</td>
<td>(3). Division A course/elective. Acquaints the student with the major modes that have shaped the Western literary tradition. Focuses on the tendency of the imagination to construct different kinds of fictions that produce tragic pleasure from pain and suffering; comic pleasure from human folly; heroic pleasure from love, war, adventure; satiric pleasure from hypocrisy. Also acquaints students with the nature of literary inquiry by approaching works from a variety of critical perspectives.</td>
</tr>
<tr>
<td>421Q</td>
<td>Epic and Romance</td>
<td>(3). Cross-listed as Honors 400Q. Readings in classic and early western European narratives, beginning with Homer’s bronze age epic and ending with late medieval romance. Examines the literary conventions and cultural assumptions that typify these genres. Particular attention given to the historical shift in interest from epic to romance as a reflection of broad changes, not only in literary form and content, but also in social customs and world view.</td>
</tr>
<tr>
<td>450</td>
<td>Independent Reading</td>
<td>(3). For majors and nonmajors who wish to pursue special reading or research projects in areas not normally covered in course work. Repeatable for credit.</td>
</tr>
</tbody>
</table>

**Studies in American Literature**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>503</td>
<td>Studies in American Literature I</td>
<td>(3). The major fiction, poetry and nonfiction prose of the classic American period. Discussions may include the historical evolution of American letters, the development of the novel and romance, the transcendental period and the rise of western and regional literatures.</td>
</tr>
<tr>
<td>504</td>
<td>Studies in American Literature II</td>
<td>(3). Fiction, poetry and drama from the late 19th century to the early 20th century. Readings also may include literary criticism and other types of nonfiction prose. Discussions focus on social, political and historical changes that affected American literary forms.</td>
</tr>
</tbody>
</table>
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512. Studies in Fiction. (3). Subjects announced each semester. Repeatable for credit.


514. Studies in Drama. (3). Subjects announced each semester. Repeatable for credit.

515. Studies in Shakespeare. (3). Subjects announced each semester. Repeatable for credit, except by students who take Engl. 3400Q. Prerequisites: junior standing and one college literature course or instructor's consent.

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.

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.

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.

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.

527. Readings in Victorian Literature. (3). Writers from Carlyle 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.


533. Studies in Contemporary Literature. (3). Modern literature, primarily British and American, since 1950. Subjects announced each semester. Repeatable for credit.

535. Literary Images of Women: Diverse Voices. (3). Cross-listed as Wom. S. 535. Explores literature written in English by women of diverse ethnic, racial, class and other backgrounds, as well as of varying sexual orientations, ages and degrees of physical ability. Materials analyzed both as literary works and as expressions of women's differences from one another. Works selected on their specific attention to the question of gender as it intersects with other elements of culture.

536. Writing by Women. (3). Cross-listed as Wom. S. 536Q. Explores various themes in critical approaches to literature composed by women writers, especially those whose works have been underrepresented in the literary canon. Genres and time periods covered, critical theories explored and specific authors studied vary in different semesters.

537. Contemporary Women's Drama. (3). Cross-listed as Wom. S. 537. Examines contemporary plays by and about women to discover and explore the insights of the various playwrights into the lives and roles of women. In addition to reading and analyzing plays, students write plays of their own.

538. Special Studies. (1-3). Topic selected and announced by the individual instructor. Repeatable for credit. Prerequisite: departmental consent.

540. Old English. (3). Cross-listed as Ling. 610.

750. Workshop. (2-4). Repeatable for credit.

Courses for Graduate Students Only

800. Introduction to Graduate Study in English. (3). Prepares students to perform effectively in graduate classes in English. Concerned with: (1) basic bibliographical tools; (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.

817. Graduate Readings in 20th Century British Literature. (3). Yeats, Joyce, Lawrence, Auden, Spender and their contemporaries.

821. Graduate Readings in American Literature I. (3). From the beginnings to 1870 emphasizing Emerson, Thoreau, Hawthorne, Melville, Whitman and Dickinson.

822. Graduate Readings in American Literature II. (3). From 1870 to 1920 emphasizing James, Twain, Crane, Dreiser, Robinson and Frost.


826. Theories of Rhetoric: Renaissance to Early Modern. (3). Cross-listed as Comm. S. 531. A study of the emerging patterns of rhetoric from the Second Sophistic to modern times. Analyzes the rhetorical systems associated with such figures as Augustine, Fenelon, Bulwer, Sheridan, Steele, Rush, John Quincy Adams, Blair, Campbell and Whately.

830. Graduate Studies in Drama. (3). Selected topics in the history and nature of dramatic literature.

832. Graduate Studies in Fiction. (3). Selected topics in the development of the form and content of prose fiction.

834. Graduate Studies in Poetry. (3). Selected topics in forms, techniques and history of poetry.


841. Graduate Studies in Contemporary Literature. (3). Covers selected topics in the literature of the last quarter-century, including literature in translation. Deals with a broad range of authors and genres; but with change of content and departmental consent, it will be repeatable for credit.

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.

855. Directed Reading. (2-3). 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.

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.


Film Studies

The film studies minor at 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 artform 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.

Wichita State University does not at this time offer a film studies major. However, the minor will prove useful to students majoring in literature, journalism and speech, and will also appeal to those in fields where some knowledge of mass communication as a cultural phenomenon is desirable, including sociology, history, anthropology, psychology, education, administration and American studies.

Students seeking more information about the film studies minor should contact Dr. James Erickson in the Department of English.

Courses approved for the film studies
minor are Hist. 106Q, The Way It Was: Western Civilization in Film; Comm. 220Q, Introduction to Film Studies; Art G. 231, Basic Photography (Motion Picture); English 307G, Narrative in Literature and Film; Comm. 320, Cinematography; Art G. 430, Television for Graphic Design; Comm. 304, Television Production and Direction; and Comm. 604, Advanced Television Production and Direction.

French
See Modern and Classical Languages and Literatures.

Geology
The Bachelor of Science (BS) degree in geology provides in-depth training for professional work in industry or government as well as for graduate study. The Bachelor of Arts (BA) degree in geology provides training for graduate study or teacher preparation background. A number of assistantships, fellowships, and scholarships are available. Contact the Department of Geology for further information.

The geology program emphasizes field and laboratory skills in sedimentology/stratigraphy and related fields. Particular attention is directed to solving problems of mineral exploration, mineral resource evaluation, and depletion and the environment.

Students who expect to achieve either the BS or BA in geology within a minimum period of time should have completed geometry, trigonometry, and two years of algebra in high school. Chemistry and physics also are recommended in high school.

Geology Major
A major with the BA requires a minimum of 45 hours in geology, including the following:
1. Geol. 111Q, General Geology
2. Geol. 312, Historical Geology and Stratigraphy; 320, Mineralogy; and 324, Petrology
3. Geol. 526, Sedimentary Geology; 544, Structural Geology; 581, Numerical Geology; and 640, Field Geology
4. A minimum of 17 hours in elective geology courses at 500 or above.

Required supporting sciences for the BS degree are:
1. Biol. 203Q or Biol. 575 or Anthro. 505
2. Math. 242Q and Math 243
3. Stat. 370
4. AE 227 (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 and Stratigraphy; 320, Mineralogy; and 324, Petrology
3. Geol. 526, Sedimentary Geology; 544, Structural Geology; 581, Numerical Geology; and 640, Field Geology
4. A minimum of 17 hours in elective geology courses at 500 or above.

Required supporting sciences for the BS degree are:
1. Biol. 203Q or Biol. 575 or Anthro. 505
2. Math. 242Q and Math 243
3. Stat. 370
4. AE 227 (or an approved substitute)
5. Chem. 111Q and 112Q or Chem. 123Q and 124Q
6. Phys. 213Q and 214Q or Phys. 313Q and 314Q
7. Any additional course from the following list (or an approved substitute):
   - Math. 344 or Math. 511; Anthro. 613 or 711; any Physics course that has a prerequisite of Phys. 214 or 314; any Chemistry course that has a prerequisite of Chem. 112Q or 124Q; Biol. 578 or either of the Biology courses listed in Item 1 above that were not completed.

Minor
A minor in geology consists of at least 15 hours of geology including Geol. 111Q, General Geology.

It is suggested that students minor in geology 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 and Stratigraphy. Similar advice is offered to the potential major whose decision to elect geology is pending.

Lower-Division Courses
101Q, Science and Environment. (3). Division C course/elective. 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.

102. Earth Science and the Environment. (3); 3R, or (4) 3R 2L. A study of the processes concerned with shaping the earth's physical environment; the impact of human activities on modifying the environment; use and abuse of natural resources including soil, water, and air; waste disposal; natural environmental hazards. Credit not allowed in both Geology 101Q and Geology 102.

111Q, General Geology. (4), 3R; 2L Division C course/elective. 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. May require field trips into the earth laboratory.

150. Workshop. (1-4). Short-term courses focusing on geological problems. Prerequisite: instructor's consent.

Upper-Division Courses
>300Q. Energy, Resources and Environment. (4). Division C course/elective. An examination of man's effects on his environment and man's dependence on earth resources in meeting his needs. Examines the significance of availability and location of energy and mineral resources relative to the protection and improvement of man's environment and man's desires for a high standard of living. Some emphasis on urban geology.

302Q. Earth and Space Sciences. (3). 2R; 2L Division C course/elective. A general survey of man's physical environment, including elements of geology, geography, meteorology, climatology, oceanography and astronomy. May require field trips. Not open to students who have taken Geol. 111Q or Geog. 201.

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 in the oceans; economic potential, law of the sea and man's effect on the marine environment.

312. Historical Geology and Stratigraphy. (3). Stratigraphic aspects and systematic review of earth history and its preservation in the rock record using field evidence for sequences of physical, biological, and tectonic events in selected areas. Also includes the origin and evolution of life. Field trips required. Prerequisite: Geol. 101Q or 111Q or 302Q or equivalent.

320. Mineralogy. (3). 1R; 6L. Elementary crystallography. A study of the origin, composition and structure of the rock-forming minerals with laboratory emphasis on recognition of their typical forms, occurrences, associations and identification. May require field trips. Prerequisite: Geol. 111Q.

324. Petrology. (3). 1R; 6L. The origin, distribution, occurrence, description and classification of igneous, metamorphic and sedimentary rocks with laboratory emphasis on the identification of rocks. May require field trips. Prerequisite: Geol. 320.
Courses for Graduate/Undergraduate Credit

501. Raw Materials of Antiquity. (3). 2R; 2L. Nature of rocks, minerals and metallic ores used in prehistory and ancient times. Also weathering, sedimentation and soil-forming processes; elements of stratigraphy; geologic history of the Pleistocene and Recent Epochs; relative and absolute dating; mineralogy of rocks and minerals; and mining and metallurgical processes of antiquity. Prerequisite: Geol. 101 or equivalent or instructor’s consent.

502. Optical Mineralogy. (3). 1R; 6L. Optical properties of amorphous and crystalline materials in polarized light. Introduces use of the petrographic microscope in the quantitative determination of rock-forming minerals and mineraloids in thin section and immersion oil methods. Prerequisite: Geol. 320.

526. Sedimentary Geology. (3). 2R; 3L. Origin, classification, primary structures and physico-chemical processes controlling deposition of sedimentary rocks, especially carbonates. Includes an analysis of modern and ancient sedimentary depositional environments and a systematic petrographic study of sedimentary rocks in thin section, including limestones and heavy-mineral analysis. May require field trips. Prerequisite: Geol. 324.

540. Field Mapping Methods. (3). 9L. Field mapping methods with special reference to use of level, compass, barometer, alidade and aerial photos. Field trips required. Prerequisite: Geol. 201 or Geol. 111Q.

541. Plate Tectonics. (3). The mathematical treatment of plate tectonics including aspects of spherical geometry necessary to understand the movement of plates over the earth’s surface. Includes earthquake focal mechanisms and paleomagnetic interpretations of plate movements; driving forces for plate tectonics; the history of the development of plate tectonic theory. Prerequisites: Geol. 111Q and Math. 112 or 123 or equivalent mathematical background.

544. Structural Geology (3). 2R; 3L. Stress-strain theory and mechanics of rock deformation, description, and genesis 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. May require field trips and field problems. Prerequisites: Math. 112 or 123, Geol. 312 (or taken concurrently), and Geol. 324.

552. Physical Stratigraphy. (3). 2R; 3L. Description, classification, correlation and relative ages of stratigraphic rock units and the origin of primary structures of clastic sedimentary rocks. Laboratory emphasis on binocular microscope examination and physical properties of unconsolidated sediments and clastic sedimentary rocks. Requires field instruction in stratigraphic mapping methods. Prerequisites: Geol. 312, 320 and 540 or equivalent.

560. Geomorphology and Land Use. (3). Identification of landforms and their genesis; processes producing landforms; the influence of geomorphology in aspects of natural hazards such as landslides, floods, earthquakes, and volcanic activity; soil erosion, drainage basin modification, coastal and desert environments, mineral resource exploitation, and their effects on humans; importance of these influences in environmental management and land-use planning. Prerequisite: Geol. 111Q or Geol. 101Q or Geol. 300G with a grade of B or better.

562. Regional Geology of the United States. (3). A detailed regional survey of the general geology, geomorphology, stratigraphy and structure of the United States. Requires field trips (instructor’s option). Prerequisite: Geol. 560 or instructor’s consent.

564. Remote Sensing Interpretation. (3). 2R; 3L. Introduces interpretation techniques for most types of images acquired by remotely positioned means. Physical principles that control various remote sensing processes using the electromagnetic spectra are applied to geology, land use planning, geography, resource evaluation, and environmental problems. Derivative maps generated from a variety of images. May require field trips. Prerequisite: Geol. 111Q or instructor’s consent.

570. Biogeology. (3). 2R; 3L. Systematic survey of major fossil biogeochemical materials, analysis of the origin and evolution of life and late pre-Paleozoic interpretation of ancient environments and climates. Includes handlines and binocular microscopic examination of major fossil biogeochemical materials. Includes analysis of fossil animal data to the solution of problems in paleoecological and paleoecological interpretation ancient environments and climates. Includes handlines and binocular microscopic examination of major fossil biogeochemical materials. Includes analysis of fossil animal data to the solution of problems in biogeochronology, paleoecology, paleoclimatology and paleography. Cites examples from fields of invertebrate, vertebrate and micropaleontology, and palynology. May require museum and field trips. Prerequisite: Geol. 312 or 552.

574. Special Studies in Biogeology. (3). 2R; 3L. A systematic study in selected areas of biogeology and paleontology. Content differs upon demand, to provide in-depth analysis in the fields of: (a) invertebrate paleontology, (b) vertebrate paleontology, (c) micropaleontology, (d) palynology and (e) paleoecology. Gives appropriate laboratory instruction in the systematics, taxonomy and biogeochemical relationships within the selected fields listed. May require field trips. Repeatable for credit to cover all five areas listed.

581. Numerical Geology. (3). 2R; 3L. Introduce applications of numerical methods to problems in geology and environmental geology. Discuss algorithms and computer software for the analysis of numerical data including univariate and multivariate statistical and deterministic techniques. Also, applications of a higher order computer language (FORTRAN, C++, PASCAL) for the manipulation of measurements. Study principles of mapping data modeling, quantification, and analysis of geologic imagery and models of simulating geologic phenomena. Prerequisites: Stat. 370 or equivalent, AE 227 or demonstrated knowledge of a higher order programming language, Math. 344 or 553 recommended or instructor’s permission.

602. Laboratory Methods in Geology. (3). Methods of data collection and analysis of geologic samples; special instruction in the use of the scanning electron microscope, atomic absorption spectrophotometer, cathodoluminescope, X-ray diffraction equipment, computer-assisted image analysis system, particle size description by sieving methods, and staining techniques for qualitative and quantitative mineral identification. Prerequisite: Geol. 312, 320; or instructor’s consent.

621. Geomorphology. (3). The chemistry of earth materials and the important geochemical processes; cycles operating on and within the atmosphere, hydrosphere and lithosphere through time; and the effects on those cycles today. Prerequisites: Geol. 111Q and Chem. 111Q or instructor’s consent.

630. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area of geologic significance. Course given upon demand. May be repeated for credit when locality and content differ. Where appropriate, travel, lodging and board costs are charged.

640. Field Geology. (6). Field investigation of sedimentary, igneous and metamorphic rock units and their structures. Includes the application of mapping methods in solving geologic problems. May include an extended off-campus field camp for five weeks (including weekends). Preparation of geologic columns, sections, maps and an accompanying professionally written report are due on campus during the sixth week. Prerequisite: 12 credits of advanced geology or instructor’s consent.

645. Geoscience Presentation. (2). Essential elements of effective communication of geoscientific information in both written and oral formats. Students prepare original manuscripts on results of geologic research and make numerous in-class presentations utilizing professionally acceptable visual displays. Prerequisites: Geol. 321, but course restricted to juniors, seniors, and graduate students; or instructor’s consent.

650. Geohydrology. (3). 2R; 3L. The hydrologic cycle, physical and chemical properties of water; fluid flow through permeable media; exploration for and evaluation of groundwater; water quality and pollution; and water law. Prerequisites: Geol. 552 and Math. 243 or instructor’s consent.

657. Earth Science Instructional Methods. (3). Practice in teaching an introductory course in the earth sciences. Developing and presenting the latest scientific laboratory techniques and evaluating their effectiveness. May be taken
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Courses for Graduate Students Only

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823. Igneous and Metamorphic Petrology. (3) LR; 6L. Mineral paragenesis, bulk chemical compositions, physical chemical relationships, textures, structures, origins and classifications of igneous and metamorphic rocks. Thin-section studies to facilitate rock identifications and the determination of petrogenetic relationships. May require field trips. Prerequisite: Geol. 520.

826. Sedimentary Petrology. (3). 2R; 3L. Detailed study of sedimentary rocks and their origins. Facilitates determinations of mineral compositions, textures, structures, fabrics and petrogenetic relationships by the use of thin sections, peels and geochemical analyses. May require field trips. Prerequisite: Geol. 526.

830. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area or region of geologic significance. Course given upon demand and may be repeated for credit when locality and content differ. Where appropriate, travel, lodging and board costs are charged. Prerequisites: summer field geology (equivalent) and instructor's consent.

840. Geotectonics. (3). Physical and geological principles of crustal deformation and tectonic interpretation. Studies the relationship of interior earth processes to crustal deformation with special reference to global tectonics. May require field trips. Prerequisite: instructor's consent.

852. Field Stratigraphy. (3). 2R; 3L. Advanced concepts and principles of stratigraphic analysis and interpretation emphasizing original sources and current research investigations. Required field problem and field trips. Prerequisite: Geol. 544 and 552 or instructor's consent.

860. Special Topics in Geophysics. (3). Systematic study in one or more selected topics of theoretical and applied geophysical techniques. Emphasis on applications of state-of-the-art concepts and principles to problems of regional to global significance. Potential topics include seismic stratigraphy, vertical seismic profiling, reservoir petrophysical response estimations, shallow aquifer geophysical modeling, geophysical basin modeling, and regional and global environmental modeling. Prerequisites: Geol. 581, 780; Math. 344 or 555; or instructor's consent.

870. Advanced Biogeology. (3). 2R; 3L. Paleocological reconstruction of ancient plant/animal communities and environments emphasizing community structure, biostratigraphy, synthesis of total raw data and problem solving. May require field trips. Prerequisite: a course in biogeology or equivalent.

881. Special Topics in Numerical Geology. (3). Systematic study in one or more topics of theoretical and applied quantitative analysis appropriate for environmental and geological research. Emphasis on applications of state-of-the-art concepts and principles to problems of regional to global significance. Potential topics include quantitative shape analysis, petrographic image analysis, multi-variable linear and non-linear unmixing, extrapolation and interpolation techniques, quantitative isotope and/or linear and non-linear unmixing, extrapolation and interpolation techniques, quantitative isotope and radioisotopic techniques, modeling global phenomena, and simulations of multi-physics flows in aquifers and reservoirs. Prerequisites: Geol. 581, 781; and Math 344 or 555; or instructor's consent.

890. Thesis. (1-6). Prerequisite: departmental consent.

German, Greek
See Modern and Classical Languages and Literatures.

Gerontology
See Hugo Wall School of Urban and Public Affairs.

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

Nine upper-division hours are to be selected from courses in each appropriate area and must be chosen in consultation with an adviser. All history majors must take Hist 200 and 698. 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 330G may not be used toward the history major. Hist. 108G may not be used toward the history minor.

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 1500. (3). Division A course/elective. An introductory 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.

>101G & >102G. History of Western Civilization. (3 & 3). Division A course/elective. 101G: prehistory to 1648. 102G: 1648 to the present.

106Q. The Way it Was: Western Civilization in Film. (3). Division A course/elective. Selected topics in the history of Western civilization on topic(s) dealt with in films from the 17th century to the present. Not open to history majors or those with credit in Hist. 101G and 102G.

>131Q & >132Q. History of the United States. (4 & 4). Division A course/elective. 131Q: survey from 1877 to the present. 132Q: survey from 1877 to the present.

150. Workshop in History. (2-3).

200. Introduction to Historical Research and Writing. (3). Basic instruction in research methodology, composition and criticism. Required of history majors.

213. American Popular Culture. (3). Cross-listed as Anth. 213. An examination of popular culture from colonial times to the present emphasizing the media explosion since the Civil War. Looks at the American past through the eyes of mass-man, suggesting that mass-man 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 sidebars to the more serious business of politics and finance.

220. 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.
225. Your Family in History. (3). Bridges 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.

Upper-Division Courses

308. 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, Etruscans, Mohenjo-Daro, Khmers, Incas, Mayas and Aztecs.

310. Special Topics in History. (2-3). Repeatable twice for credit. Prerequisite: departmental consent.

311 & 312. History of Latin America. (3 & 3).
311: a study of Spanish and Portuguese colonization of America. 312: an examination of the national period from the wars of independence to the present.

313 & 314. English History. (3 & 3). 313: from the earliest times to the beginning of the Stuart period, emphasizing the origin and development of institutions, customs and nationalism. 314: from the beginning of the Stuart period to the present.

320. Russian History Survey. (3). A survey of Russian history from 862 A.D. to the present.


481. Cooperative Education. (1-3). The cooperative program would cover work done at museums or archival divisions of libraries. Cannot be included for a history major or minor. Offered CR/NCR only. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit

501. The American Colonies. (3). Colonization of the New World emphasizing the British colonists and their development.

502. The American Revolution and the Early Republic. (3). Examination of selected phases of the revolutionary, confederation and federal periods.

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 emphasizing the growth of American nationalism.

504. Civil War and Reconstruction. (3). A study of the origins and military events of the American Civil War and the political and social ramifications of the conflict through 1877.

505. America's Gilded Age. 1877 to 1900. (3). Emphasizes roots of urban problems, foundations of dissent policy toward minority groups and evaluation of imperial expansion.

507. The United States: the 20th Century. 1900-1945. (3). Examines political, social, and economic issues from the Progressive Era through World War II.


515. Economic History of the United States. (3). Cross-listed as Econ. 627.

516. History of American Business. (3). A history of American business enterprise from colonial times to the present, with special emphasis on the industrial age since the Civil War, on case studies of individual firms, on biographies of business people, and on the social and political impact of business.


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 economic, social and political traditions.

528. History of Wichita. (3). A history of Wichita, Kansas, from 1865 to the present with emphasis on the lessons of local history for future planning and its importance to an individual citizen's sense of place.

529. Indians of Kansas. (3). History of Indian occupation of the Kansas region from initial white contact to the present. Emphasizes 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.


531. American Environmental History. (3). Examination of the historical, physical, economic, scientific, technological, and industrial interactions of the peoples of America with their environment. Particular emphasis is placed on the period from 1800 to the present.

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 ecological adjustments and the influence of new technology and forms of business organization.

534. History of the Old South. (3). An examination of Southern civilization prior to the American Civil War.

535Q. History of Kansas. (3). Division A course/elective. History of the Kansas region from Spanish exploration to the present, emphasizing the period after 1854.

537. The Trans-Mississippi West. (3). Spanish, French and Anglo-American penetration and settlement west of the Mississippi River from the 16th century to about 1900.

538. The American West in the Twentieth Century. (3). Explores the growth of the trans-Mississippi West in the 20th century, with particular attention to political development, economic growth, cultural manifestations, the role of minority groups and the impact of science and technology.

539. Indian-White Relations in North America. (3). Indian life, culture and history from the early 16th century to the present emphasizing the impact of federal Indian policy since 1800.

541. Modern France. (3). History of the major trends in French history from Napoleon to DeGaulle emphasizing French attempts to adjust politically, socially, economically and culturally to the changing conditions of modern industrial society.

545Q. Neither War Nor Peace: The World Since 1945. (3). Division A course/elective.

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.

558. The Ancient Near East. (3). Political and cultural history of ancient Mesopotamia, Iran, Egypt, Palestine, Syria and Asia Minor to the death of Alexander the Great.

599Q & 560. Greek History. (3 & 3). 599Q: Division A course/elective; the Hellenic world from prehistoric times to the end of the Peloponnesian War. 560: the 4th century and the Hellenistic period.

A general survey of world geography including an analysis of the physical, political, economic, historical and cultural geography of the world's 11 regions.

235. Meteorology. (3). 2R; 2L. Lab fee. An introductory study of the atmosphere and its properties and the various phenomena of weather. Includes a brief survey of important principles of physical, dynamic, synoptic and applied meteorology. Does not apply toward a major or minor in geography. Requires field trips at the option of the instructor. Prerequisite: instructor's consent.

262Q. Cultural Geography. (3). An introduction to cultural geography emphasizing man's geographical distributions, the spatial aspects of his cultural activities, the sources and techniques of his livelihood and the relationships to his environment.

Upper-Division Course

320. Field Studies in Geography. (1-6). Off-campus, systematic field study in a selected area of geographic significance. Course is given upon demand and may be repeated for credit when the locality and content differ. Where appropriate, travel, lodging and board costs are charged.

Courses for Graduate/Undergraduate Credit

510. World Geography. (3). A study of world regions including an analysis of each region's physical, political, economic, historical, and cultural geography. Focus on a specific geographical problem for an in-depth study and analysis. Prerequisite: instructor's consent. May not be taken if credit has been received for Geog 210Q.

520. Geography of the United States and Canada. (3). Physical, political, economic, historical and human geography of the United States and Canada.


541. Geography of Europe. (3). Physical, political, economic, historical and human geography of Europe.

580. Economic Geography. (3). A geographical analysis of the distribution and utilization of basic world resources.

620. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. Course is given upon demand and may be repeated for credit when the locality and content differ. Where appropriate, travel, lodging and board costs are charged.

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.

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.

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. Course given on demand and is repeatable for credit when content differs. May require field trips. Prerequisite: junior standing.

750. Workshop in Geography. (1-4). Short-term courses with special focus on geographical problems. Prerequisite: instructor's consent.

Course for Graduate Students Only

820. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. Course given upon demand and may be repeated for credit when the locality and content differ. Where appropriate, travel, lodging and board costs are charged. Prerequisite: instructor's consent.

Hugo Wall School of Urban and Public Affairs

The Hugo Wall School of Urban and Public Affairs enhances the University's ability to respond to its urban mission through the cooperative efforts of the academic units and centers which comprise the new School. The School, created in 1993, includes Administration of Justice, Gerontology, Minority Studies, Public Administration, Social Work and the Center for Urban Studies. The Hugo Wall School provides a quality educational unit for students and also functions as a research and service unit that assists with a broader range of needs identified in the community.

Each academic unit defines the assessment procedure for their degree program and students are informed of this procedure in the year prior to degree completion.

Administration of Justice

The Department of Administration of Justice offers the Bachelor of Science and Master of Administration of Justice degrees. 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. The Bachelor of Science degree program is described below.

Major. The major in Administration of Justice consists of at least 36 hours (but not more than 50 hours will contribute toward the BS degree) with at least 21 semester hours of upper-division course work in Administration of Justice. English 210 is an additional requirement to be taken during the first two semesters as an AJ major. Students who plan to graduate with a BS in Administration of Justice also must satisfy the Fairmount College of Liberal Arts and Sciences requirements (including the foreign language requirement) and the University requirements for the Bachelor of Science degree. The curriculum is divided into three areas:


Students must complete the 24 hours of core courses and 12 additional hours from groups A and B. Nine of these 12 hours must be in Group A. The remaining 3 hours can be in Group A or Group B. Students may take 14 additional credit hours beyond the 36 hours which are required for the major (for a total of 50 hours). These hours can be in Group A or Group B with the following restrictions: there is a maximum of 6 hours in each of the following: 481, 482, or 483; and there is a maximum of 12 hours total in any combination of the following: 481, 482, and 483.

Minor. The minor in Administration of Justice consists of at least 18 hours of Administration of Justice courses, of which at least 6 hours must be at the upper-division level (300 and above). The following requirements must be met for the minor:

1. AJ 191

2. A minimum of two and a maximum of three of the following courses: AJ 291, 292, 293, and 294.

3. A minimum of two and a maximum of three AJ courses must be at the 300 level and above.

Important: students should plan the minor keeping in mind that some upper-division AJ courses have specific 200 level AJ courses as prerequisites.

Emphasis in Cross-Cultural Communications in Administration of Justice. The emphasis in Cross-Cultural Communications in Administration of Justice is designed to provide learning experiences that will prepare practitioners to promote favorable interaction between criminal justice agencies and the minority groups they serve. This emphasis area attempts to prepare students to develop empathet-
ic responsiveness, combined with humanistic insights and to develop and maintain mutually dependent helping and working relationships between criminal justice agencies and a variety of minority groups.

Students majoring in Administration of Justice also may obtain the Certificate of Emphasis in Cross-Cultural Communications in Administration of Justice in addition to the BS in Administration of Justice degree. Those students seeking this certificate must satisfactorily complete Min. S. 210Q and one of the following: Min. S. 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.

Lower-Division Courses

AJ 191Q or departmental consent is prerequisite for all administration of justice courses unless otherwise noted.

191Q. Introduction to Criminal Justice. (3). Introduces crime and the criminal justice system by discussing the nature of crime and by identifying multiple facets of the justice system, including the police, the courts, and correctional agencies. Studies the role of the criminal justice system as it relates to the individual and to society. Students become acquainted with criminal justice careers.

201. Introduction to Agency Administration. (3). A survey of management models, administrative techniques and patterns of organizational structure characteristic of administration of justice agencies. Prerequisite: AJ 191.


292. Law Enforcement. (3). An examination of the interaction of police and citizens as regulated by constitutional provisions and other legal and social constraints. Prerequisite or corequisite: AJ 191.

293. Introduction to Justice Research. (3). An introductory course designed to assist students in developing skills specific to research in administration of justice. Specific topics include law reference materials, Department of Justice data, library search skills, research report writing, descriptive statistics, and problem formulation. Prerequisite or corequisite: AJ 191.


Upper-Division Courses

301. Computers in Administration of Justice. (3). A survey of the use and potential of computers in police, courts and correctional agencies. Studies the ethical and legal problems confronting society and agencies of the justice system occasioned by the use of computers as information-gathering and storage instruments, as well as the advantages of using computers in basic and applied research in criminal justice. Prerequisite: AJ 191.

310. Community-Based Corrections. (3). Focuses on the analysis and evaluation of programs in community settings such as diversion, probation, parole, halfway houses, treatment, study release, work release, and restitution. Discusses programs in terms of their definition, history, purpose, administration/operation, problems, cost, and effectiveness. Prerequisites: AJ 191 and 291.

315Q. Criminal Law. (3). History, scope, and nature of law; parties to crime; classification of offenses; act and intent; capacity to commit crimes, and defenses. Examines elements of major criminal statutes and an overview of criminal processes and rules of evidence. Prerequisite: none.

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. Prerequisite: none.

323. Criminal Justice Torts. (3). Examines the background and origin of tort law, intentional and unintentional acts by defendants, negligence, and absolute liability. Prerequisite: none.

331. Introduction to Security. (3). An introduction to the history and philosophy of security. Examines the relationship of security to public law enforcement. Prerequisite: AJ 191 or instructor's consent.

341. Criminalistics and Scientific Crime Detection. (3). Studies the application of the natural sciences to assist law enforcement officers and the criminal justice system. Studies investigative procedures from the crime scene through laboratory analysis, to the presentation of evidence in court. Prerequisite: AJ 191 and 292.

345. Special Investigation. (3). Care, collection, and preservation of evidence. Studies sources of information and locating subjects, crime scene processing, and investigative techniques applicable to specific offenses. Prerequisites: AJ 191 and 292.

351Q. The Victim in Criminal Justice. (3). An examination of the relationship of crime 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. Prerequisite: none.

352. 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 specific select problems in the administration of juvenile justice. Prerequisite: none.

353. Organized and White Collar Crime. (3). Surveys the history, scope, and impact of organized and white collar crime in America, areas of influence, remedial practices, and methods of legal control. Reviews the societal conditions involved in the appearance, spread, and expansion of organized and white collar crime in America and the overlap and interrelationship between corporate and business crime (white collar and organized crime). Emphasizes the processes of infiltration, fraud, and corruption that are characteristic of these conspiratorial crimes. Prerequisite: none.

354. Hostage and Crisis Negotiations. (3). Cross-listed as Comm. 349. Introductory course focusing on the study of negotiation and management techniques appropriate to the handling of hostage negotiations, barricaded-subject negotiations and other exigent situations such as suicide and violent domestic disturbances. Examines the use and training of special tactical and negotiation teams. Prerequisites: AJ 191Q and Comm. 302 (or equivalent) or instructor's consent.

355. Women and Minorities in the Criminal Justice System. (3). Cross-listed as Min. St. 251Q. Examines the role of women and minorities within the criminal justice system from two perspectives: (1) individuals employed by the criminal justice system and (2) individuals who commit crimes and/or are apprehended by the criminal justice system. Emphasizes those facets unique to women and minorities and their interactions with law enforcement, judiciary, and corrections. Prerequisite: none.

381. Special Topics. (3-6). Group project and inquiry through student investigation under faculty supervision of administration of justice topics including law enforcement, corrections, and the judicial process. Repeatable for credit, not to exceed a total of six hours. Prerequisite: Instructor's consent.

382. Workshop in Administration of Justice. (1-3). Workshop. Prerequisite: Instructor's consent.

Prerequisite note: AJ 293, unless otherwise noted, is a prerequisite for all 400 level and above AJ courses.

401. Management of Criminal Justice Agencies. (3). An intensive examination of a variety of emerging administrative and management concepts and the processes related to the determination and implementation of management philosophy. Prerequisites: AJ 191, 291, 292, and 293, or instructor's consent.

420. Criminal Evidence. (3). Concepts of criminal evidence rules as they pertain to kinds and degrees of evidence—procedure for admitting or excluding evidence; witnesses and privileged communications; the hearsay rule and its exceptions; and judicial notice, burdens of proof, and presumptions. Emphasizes the rules of evidence that govern the administration of justice process. Prerequisites: AJ 191, 293, and 294.

451Q. International Criminal Justice. (3).
Acquaints students with the 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. Incorporates the role of the United Nations in the treatment of offenders and crime prevention. Prerequisites: AJ 191 and 293 or instructor's consent.

452. Community Relations in Criminal Justice. (3). Analysis of techniques utilized by administration of justice agencies in both public and community relations programs that are designed to optimize the agency's communication capability. Special emphasis on the unique characteristics of both public and community relations. Prerequisites: AJ 191 and 293.

453. Crime Prevention. (3). A study of the theories of crime prevention efforts by governmental and nongovernmental agencies. An analysis of factors which contribute to the reduction of crime; crime analysis and prediction; the methodology of gathering crime data; and the relationship between the criminal justice system and the public. Prerequisites: AJ 191 and 293.

481. Cooperative Education. (1-6). Provides 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 cooperative education 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.

482. Internship. (3-6). Supervised field placement with a governmental or private law enforcement, court correction, juvenile justice, forensic science or security agency. Provides a learning experience in which the student can integrate and apply knowledge and theory derived from the administration of justice curriculum. Interns work 96 hours for three hours credit, there is a maximum of six hours credit. Prerequisites: 15 hours in administration of justice, junior or senior standing, consent of the criminal justice agency and internship coordinator's consent.

483. Individual Directed Study. (1-3). Study in a specialized area of the administration of justice system emphasizing 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.

497Q. Contemporary Issues. (3). An analysis of issues germane to criminal justice in a changing society. Explores topics relevant to issues and trends in law enforcement, courts, and corrections. Prerequisites: AJ 191 and 293 or instructor's consent.

Courses for Graduate/Undergraduate Credit

593. Crime Causation and Criminal Justice Policy. (3). Introduction to theoretical issues in criminal justice. Primary emphasis is the etiology of criminal and delinquent activity and the response of the criminal justice system to such behavior. Discusses the significant contributions of outstanding criminologists, as well as elaborating the application of these perspectives to criminal justice agencies. Prerequisites: AJ 191 and 293.

595. Research Methods. (3). An introduction to statistical methods, including experimental design, the analysis of statistical processes and related procedures. Studies the general methodology of research as it pertains to the administration of justice. Prerequisites: AJ 191 and 293.

600. Forensic Anthropology. (3). Cross-listed as Anthr 600. Encompasses the area of criminal investigation involving biological evidence: blood, hair, fingerprint, dentition and skeletal system. Covers procedures of collection, preservation, marking, transportation, referral, laboratory analysis, classification and identification emphasizing anthropological interpretation. Prerequisites: AJ 191, 293, and Anthr 557, or instructor's consent.

610. Correctional Counseling. (3). Analysis of the role of a correctional counselor. Emphasis is placed on current practices in community-based and institutional correctional counseling. Discusses application of theories of counseling which are widely used in correctional settings, rehabilitative programs, and special needs of offenders. Prerequisites: AJ 191, 292, 293, or instructor's consent.

621. Environmental Law. (3). An in-depth analysis of emerging federal, state, and local legislation; judicial decisions; and administrative policy to environmental protection. Explores the roles of the administration of justice agency and a variety of governmental and nongovernmental protective agencies as related to prevention, investigation, and enforcement processes of environmental protection. Special emphasis on the contribution administration of justice agencies can make toward development and implementation of effective environmental public education and assistance programs. Prerequisites: AJ 191 and 293 or instructor's consent.

630. Security, Theory, and Practice. (3). Advanced course emphasizing the interrelationships between theories underlying contemporary security practice. Prerequisites: AJ 191, 292, 293, 331, or instructor's consent.

641. Forensic Psychiatry. (3). Analysis of the role of psychiatry in the administration of justice. Introduces the student to the concepts and procedures of forensic psychiatry. Prerequisites: AJ 191 and 293, or instructor's consent.

643. Forensic Science. (3). Analysis of the medical role of prevention, detection, and treatment as related to the administration of justice. Emphasizes medical specialty areas, such as pathology and psychiatry which have significant effect on segments of the administration of justice process. Prerequisites: AJ 191 and 293 or instructor's consent.

651. Dispute Resolution in Administration of Justice. (3). Analysis of community and individual reactions to agency policy and services. Emphasizes the agency's role as mediator between offenders and victims of crime and between other groups and individuals in conflict. Prerequisites: AJ 191 and 293 or instructor's consent.

781. Cooperative Education. (1-6). Provides 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 work with a faculty 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 graduate program. Individualized programs must be formulated in consultation with, and approved by, the department cooperative education coordinator. Open only to AJ graduate students. Offered Cr/NCr only.

782. Workshop in Administration of Justice. (3). Prerequisite: instructor's consent.

783. Advanced Special Topics in Administration of Justice. (1-4). Detailed study of topics in administration of justice with particular emphasis is placed on establishing and maintaining the expertise of the various instructors. Prerequisite: departmental consent.

Courses for Graduate Students Only

816. Correctional Administration. (3). Analyzes basic methods utilized in the organization and accomplishment of objectives in correctional institutions. Reviews methods utilized in traditional correctional institutions, diagnostic centers, halfway houses and other treatment programs.

855. Seminar on Juvenile Justice. (3). An analysis of the criminal justice process as related to the youthful offender. Emphasizes functional components, such as training of corrections personnel, community coordination for delinquency prevention and control, police-school relations, and ethical, administrative and operational aspects of juvenile justice agencies.

856. Agency-Community Relations. (3). In-depth analysis of the role of agency administrators in community relations and related public officials in existing community programs. Special emphasis on a multiplicity of approaches for developing new lines of communication between the agency and the community.

861. Police Administration. (3). A comparative survey and analysis of administrative philosophy, problems, procedures, organizations and functions of effective agency organization. Considers administrative skills related to operations and personnel.

881. Internship. (3-6). Supervised field placement in a criminal justice agency. For three credits, the student works 192 hours and completes an academic project under the direction of a faculty member. Prerequisite: consent of internship coordinator.

882. Individual Directed Study in the Administration of Justice. (3-6). Faculty directed readings and/or research in special areas of interest in the field of administration of justice. Prerequisite: departmental consent.
Sciences requirements (including the foreign language requirement) and the University requirements for the Bachelor of Science degree.

Required Gerontology Courses. For most students, a 24 hour core of gerontology coursework is required:

- 100Q, Introduction to Gerontology ......3
- 401, Aging, Work and Retirement ......3
- 404, Psychology of Aging ..................3
- 501, Field Experience ....................6
- 513, Sociology of Aging ..................3
- 518Q, Biology of Aging ..................3
- 560, Aging Network ....................3

Students who have professional work experience in aging may, with faculty approval, substitute 3 hours of elective credit for the second 3 hours of field experience.

Required Research Courses. Gerontology majors also complete three hours in approved statistics courses and three hours in an approved research methods course.

Elective Courses. Students will enroll in 18 hours of elective course work in gerontology, including at least one course from each of the following four clusters.

Cluster I. Humanities. Geron. 514, Anthropology of Aging; Geron. 515, Women and Aging; Phil 327, Philosophy of Health Care.

Cluster II. Behavioral/Social Science. Geron. 512, Minority Aging; Geron. 520, Family and Aging; Geron. 715, Adult Development and Aging.

Cluster III. Physiology/Health. Geron. 537, Social Consequences of Disability; Geron. 550M, Long Term Care and Aging; HS 331Q, Principles of Dietetics and Nutrition; Soc. 538, Medical Sociology.


Lower-Division Courses

- 100Q, Introduction to Gerontology. (3). Division B course/elective. A multidisciplinary overview of the field of aging, with attention to cultural, social, psychological, biological and economic factors which influence the circumstances of the elderly.

150. Workshop in Gerontology. (1-3). Provides specialized instruction, using a variable format in a gerontologically relevant subject. Repeatable for credit.

Upper-Division Courses

401. Aging, Work and Retirement. (3). Examines the impact of population aging upon the nation; income and poverty among the elderly, retirement and work choices; the impact of lifetime income, Social Security, Medicare, private pensions and health on the income security of the elderly. Prerequisite: Geron. 100Q.

404. Psychology of Aging. (3). Cross-listed as Psy 404. An examination of the issues surrounding the adult aging process. Includes personality and intellectual change, mental health of the elderly and the psychological issues of expending human life. Special emphasis on the strengths of the elderly and prevention of psychological problems of the elderly. Prerequisite: Psy 111Q.

481. Cooperative Education. (3-6). Provides practical field experience, under academic supervision, that complements and enhances the student's academic program. Repeatable up to six hours. Offered CR/NC only. Prerequisites: Geron. 100Q and instructor's consent.

Courses for Graduate/Undergraduate Credit

501. Field Experience. (3-6). A supervised field experience in an agency or organization planning or providing services to older people, individually designed to enhance each student's skills and knowledge of the aging service network. Repeatable for six hours credit. Prerequisite: 12 hours of gerontology credit and instructor's consent.

512. Issues in Minority Aging. (3). Cross-listed as Min. S. 512. Addresses the needs and interests of students who are interested in providing services to the minority elderly, exploring the "issues" of concern to minority elderly, becoming familiar with the rights of older minority Americans, learning the legal procedures for resolving specific problems of minority elderly, and offering tried and tested solutions to problems of minority elderly. Prerequisites: Min. S. 100Q, Geron. 100Q, Soc. 111Q, or instructor's consent.

513. Sociology of Aging. (3). Cross-listed as Soc. 513. Analysis of the social dimensions of old age, including changing demographic structure and role changes and their impact on society. Prerequisite: Soc. 111Q.


515. Women and Aging. (3). Introduces students to issues in aging that are unique to women, to women's diverse developmental patterns, and to research methods appropriate for studying aging women and their life experiences. Topics include physical change, role transitions, and adaptation from a lifespan perspective.

518Q. Biology of Aging. (3). Cross-listed as Biol. 518Q. An introduction to the phenomenon of aging, including a survey of age-related processes and mechanisms of senescence, emphasizing humans. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: A basic course in biology that satisfies the gener-
al education requirements.

520. Family and Aging. (3). Cross-listed as Soc. 520. An analysis of the families and family systems of older people. Special emphasis is placed upon demographic and historical changes, widowhood, caregiving and intergenerational relationships as they relate to the family life of older people. Prerequisite: Geron. 100 or junior standing.

537. The Social Consequences of Disability. (3). Cross-listed as Soc. 537. An ecletic survey of the social aspects of disability, showing the impact of social values, institutions and policies upon adults with disabilities. Appropriate for both students of sociology and the service professions. Prerequisite: Soc. 111Q.

550. Selected Topics in Gerontology. (1-6). Study in a specialized area of gerontology with the focus upon preprofessional programs and current issues in the field of aging. Emphasizing knowledge and skills in applied areas of gerontology as they relate to an emerging area of research and application. Repeatable up to six hours. Prerequisite: Instructor’s consent.

560. The Aging Network. (3). An overview of federal, state, and local programs concerned with planning, managing, or direct delivery of services to the older population. Prerequisite: 9 hours of gerontology credit or instructor’s consent.

663. Economic Insecurity. (3). Cross-listed as Econ. 663. Personal economic insecurity, such as unemployment, old age, health care, disablement and erratic economic fluctuations. Includes costs and benefits of government action to aid in meeting such insecurities. Prerequisites: Econ. 202Q or instructor’s consent, and junior standing.

760. Grant Proposal Preparation. (3). Concerned with the process of research and project proposal development, including response to published guidelines, project planning and proposal development and submission. Examines grant funding, including types of funding sources and their purposes and methods and processes of proposal evaluation. Students write and evaluate proposals.

715. Adult Development and Aging. (3). Explores theory and research related to the development of adults and to the aging process. Utilizing an interactive, interdisciplinary perspective, the course examines the process of change, transition, growth, and development across the adult lifespan. Prerequisites: Geront. 798 or six hours of gerontology.

720. Independent Readings in Gerontology. (1-3). Directed study in a specialized topic in gerontology. Repeatable up to six hours. Prerequisite: 12 hours of gerontology credit and departmental consent.

750. Workshop in Gerontology. (1-3). Provides specialized instruction, using a variable format in a gerontologically relevant subject. Repeatable for credit.

781. Cooperative Education. (3-6). Provides practical field experience, under academic supervision, that is suitable for graduate credit and complements and enhances the student’s academic program. Repeatable up to six hours. Prerequisites: 12 hours of gerontology and instructor’s consent.

798. Multidisciplinary Perspectives on Aging. (3). Introduction to the advanced study of the process of aging from a multidisciplinary point of view. Not open to students with an undergraduate major or minor in gerontology. Prerequisite: Admission to graduate school.

Courses for Graduate Students Only

800. Seminar in Gerontology I (3). Advanced study of the theories of aging from a multidisciplinary perspective emphasizing social gerontology. Prerequisite: Geront. 798 or 12 hours of gerontology or instructor’s consent.

801. Field Research in Gerontology. (3). An examination of the methods of participant observation and interview as approaches to understanding aging and the aged. Students gain practical experience in these methods through individual fieldwork projects. Prerequisite: Geront. 798, 12 hours of gerontology credit or instructor’s consent.

802. Social Policy and Aging. (3). The analysis and evaluation of social policy issues related to aging and old age. Emphasis on the importance of social values and historical context for understanding current policies and practices. Prerequisite: Geront. 798, 12 hours of gerontology or instructor’s consent.

803. Program Planning and Evaluation in Aging Services. (3). Examines the process of developing service programs in response to a defined community need in aging services. Includes assessment of need; identification and development of community resources; and development and evaluation of program goals, objectives, and methods of implementation. Prerequisite: 12 hours of gerontology or instructor’s consent.

810. Advanced Gerontology Internship. (3-6). Integrates academic gerontology and practical experience emphasizing application of research findings. Students are assigned to an agency or organization engaged in planning, administering or providing direct services to older people. Includes the interning submitting and being examined upon a comprehensive internship paper. Prerequisites: 12 hours of gerontology credit and instructor’s consent prior to registration.

820. Thesis. (1-3). Repeatable, but total credit hours counted toward degree shall not exceed four hours.

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 affects communications across ethnic and cultural lines.

Major. The major in minority studies consists of at least 30 hours, including Min. S. 100Q; 210Q; three of the following: 220, 240Q, 260, 331, 332, 333, 410, 512; and two of the following: 540, 554, 548.

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 18 hours. The courses are to be approved by the student’s adviser in the department.

Lower-Division Courses

>100Q. Introduction to Minority Studies. (3). Division B course/elective. Orientation to the nature and scope of minority studies. Emphasizes the unique nature of the experience of minority groups in this country. Also undertakes a cursory examination of some alternative styles of behavior in dealing with problems peculiar to minority people in the United States.

>210Q. Fundamentals of Cross-Cultural Communications. (3). Division B course/elective. An examination of the effects of different cultures on language and methods of communicating. Also studies communications and its relationship to behavior in this country.

220. Martin Luther King, Jr. A study of the life and philosophy of the Rev. Dr. Martin Luther King, Jr. Special emphasis on the motivation, obstacles and social impact of Dr. King’s life on the civil rights movement and inter racial relations in the United States.

240Q. Minority Women in America. (3). Cross-listed as Wom. S. 240. Division B course/elective. An examination of the lives, talents and contributions made by minority women to the American culture. An analysis of the misconceptions 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, sensitivities and emotions.

251Q. Women and Minorities in the Criminal Justice System. (3). Cross-listed as AJ 251Q. Division B course/elective. Examines the role of women and minorities within the criminal justice system from two perspectives: (1) individuals employed by the criminal justice system and (2) individuals who commit crime and/or are apprehended by the criminal justice system. Emphasizes those facets unique to
women and minorities and their interactions with law enforcement, judiciary and corrections.

260. Prominent Minorities in the Making of America. (3). Designed to explore, compare and contrast minority thought and processes for social, economical and political reform. Devels into the social concepts of prominent American minorities through the coverage of popular novels, biographies, autobiographies, rhetoric, etc. Prerequisite: Min. S. 100Q.

Upper-Division Courses

331. The Black Family. (3). Examines the fictional and factual images of black American families from slavery to the present. Primary focus on the adaptive abilities of poor, working class and middle class black families. Prerequisites: Min. S. 100Q, 210Q or instructor's consent.

332. The American Native American. (3). Examines contemporary issues facing the Native American with special focus on the Osage tribe. Prerequisites: Min. S. 100Q, 210Q or instructor's consent.

333. Issues in the Chicano Community. (3). Examines a variety of social, psychological and political concerns affecting Mexican Americans. Special attention to the impact of immigration and to the media's role in the portrayal of the Chicanos. Prerequisites: Min. S. 100Q, 210Q or instructor's consent.

350. Workshop. (1-4). Focused on the nature and scope of minority studies. Emphasizes the unique nature of the experiences of a specific American minority group.

410. The African American Male. (3). Examines the impact of racism on the role and lifestyle of the African American male in American society. Prerequisite: Min. S. 100Q, 210Q or instructor's consent.

481. Cooperative Education. (1-4). Allows the student to examine the impact of minority status in the work environment. Examines interpersonal interactions, communication and acceptance in and adjustment to the multicultural work environment. Offered Cr/NCr only. Prerequisite: departmental consent.

499. Urban Seminar. (3). Exposes students to contemporary literature on urban problems in the context of the Wichita community. Neighborhood leaders familiarize students with the history, demographics, and culture of the neighborhood. Required to volunteer 16 hours per month for three months with a neighborhood-based agency. Prerequisites: 2.0 GPA.

Courses for Graduate/Undergraduate Credit

512. Issues in Minority Aging. (3), Cross-listed as Geron. 512. Addresses the needs and interests of students who are interested in (1) providing services to the 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 tried and tested solutions to the problems encountered by minority elderly. Prerequisites: Min. S. 100Q, Geront. 100, Soc. 111Q or instructor's consent.

540. Advanced Cross-Cultural Communications. (3). An advanced study on special topics in human relations. Prerequisite: Min. S. 380 or concurrent enrollment.


580. Individual Projects. (3). Student conducts independent research related to a specific minority group. Prerequisite: 50 hours of Wichita State credit or departmental consent. Repeatable for a total of 6 hours.

725. Concepts of Cross-Cultural Communications. (3). A critical survey of the concepts of cross-cultural communications. An in-depth examination of the rationale used to evaluate different ethnic groups, language and behavior. Course provides a conceptual understanding of social implications and necessary adaptations of communications to, between and among diverse ethnic groups in our society.

750. Workshop. (1-4). Focuses on the nature and scope of minority studies. Emphasizes the unique nature of the experiences of minority groups in this country.

Public Administration

Students planning to continue their education in pursuit of a Master of Public Administration degree should structure their undergraduate degree plans to include program prerequisites.

The Master of Public Administration program consists of 39 graduate hours and it has three prerequisites: (1) microeconomics, (2) an introductory course in public administration and (3) a basic course in statistics. Students can be accepted in a "full-standing" status prior to the completion of program prerequisites, but the deficiencies must be overcome within the first academic year.

The Master of Public Administration program uses an important blending of academic foundations and real world application. Because of the program's relationship to the 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. All students complete the program through an applied research project which addresses an issue of professional concern or a thesis.

The degree is made up of three elements—the core curriculum, an area of specialization and a completion option. Students may develop a specialization in one of three areas: management, financial management or public policy analysis. The remainder of the program can be structured to match the career aspirations of the student using course offerings from selected University departments.

Courses for Graduate/Undergraduate Credit

625. Computer Applications for Public Policy. (3). Familiarizes students with major applications for IBM compatible microcomputers and their use in public policy analysis. Prerequisite: enrollment in MPA program or instructor's consent.

700. Urban Affairs. (3). A study of the policy issues faced by local government in an urban setting from a multidisciplinary point of view. Prerequisite: enrollment in urban affairs program or instructor's consent.

702. Research Methods in Public Administration. (3). Acquaints students with applied public policy research methods. Emphasizes locating, collecting, appraising and utilizing both primary and secondary sources of data of the type used in policy, planning and administrative research. Students must complete several short research projects. Prerequisite: enrollment in the MPA program or instructor's consent.

710. Scope of Public Administration. (3). Cross-listed as Pol. S. 710. Reviews the scope of the field of public administration including a survey of key concepts and schools of thought underlying the field and identification of issues shaping the future development of the field.

720. State and Local Administrative Systems. (3). Examines the administrative systems characteristic of state and local governments. Managerial functions of agency heads are examined both in theory and with relation to the political framework within which administrators work. Prerequisite: Instructor's consent.

730. Decision Making. (3). Cross-listed as Mgmt. 650. Includes theories of decision-making ability under varying degrees of uncertainty. Includes theories of decision making, environment for stimulating creativity, cognitive inhibitors to problem identification, alternative evaluation techniques, decision implementation and utilization of quantitative tools in decision making. Prerequisite: instructor's consent.

740. Policy Evaluation. (3). Assists public sector monitoring and control of program and ser-
service delivery quality. The social sciences offer a variety of research tools and methods that have management feedback applications which are appropriate for evaluating performance. Prerequisite: instructor's consent.

755. Special Topics in Urban Affairs. (3). Provides students with an opportunity to engage in advanced study in urban topics that are of immediate concern and arise only occasionally. Content varies with issues that arise, student needs and faculty expertise. Directed to Master of Public Administration students. May be repeated if topics are different. Prerequisite: instructor's consent.

761. State and Local Financial Systems. (3). Designed primarily to prepare students for professional employment and training in government financial management. Introduction to fund accounting, costing of government services, capital budgeting and asset management.

770. The Environment of Public Administration. (3). Surveys the political and economic institutions that underlie the practice of public administration. Includes political systems, constitutional arrangements, legislative processes, inter-governmental relations, the price system, market failure, government regulation, public finance and public choice. Prerequisites: Pol. S. 321 and Econ. 202.

Courses for Graduate Students Only

875-876. Thesis. (3-3). Prerequisite: adviser's consent.

890. Internship. (3). Integrates academic pursuits and practical experience. Students admitted to the internship are assigned to work in an approved government, community or private organization for a period of three to 12 months. Prerequisites: completion of all P. Adm. core courses and 6 hours of additional graduate credit courses.

898. Applied Research Paper. (3). The applied research paper under the direction of a faculty committee develops and measures competency in the areas of writing research and policy conceptualization. Each paper addresses a policy relevant question and the delivery of a finished product with policy application. To be taken in the last semester of course work.

Social Work

A major is provided by the social work department for entry into beginning professional practice in the human services. Courses are designed primarily to prepare students for professional employment at the bachelor's level. The curriculum also provides a foundation for graduate education in social work, including eligibility for advanced standing. Introductory social work courses also are useful for students planning to enter other helping professions as well as for informed participants in community problem solving. WSU’s program is accredited by the Council on Social Work Education which is required for professional licensure in Kansas and other states.

Admission to and progression in the social work program has two key stages: initial acceptance into the major program and professional standing for entrance into the practicum. Requirements include a 2.50 overall GPA, 3.00 in entry level social work coursework, and satisfactory completion of a noncredit orientation session. Provisional admissions may be granted before final grades are received but enrollment in required upper division social work courses is dependent upon meeting these admission standards. The second stage is application for admission into supervised field practicum. A satisfactory completion of a comprehensive faculty review of the student's professional and academic performance is required during the semester prior to field-approved field instruction. Complete application materials for admissions into the major program and the field practicum are available from the social work office.

Lower-Division Courses


200Q. Understanding Social Welfare. (3). Surveys a broad spectrum of social welfare programs and policies, emphasizing the relations of governmental and voluntary sector service systems to larger social institutions and to historical developments in determining who should be helped and how. Explores the relations of area services to the antisocial individual, group, and societal needs, to trends in policy, and to current issues.

201. Introduction to Social Work Practice. (3). Introduction to the practice of social work. Includes development of social work as a profession: the holistic approach and multilevel social work practice methods used in practice; aspects of the problem-solving process; and attention to the current trends in social services. Community service activities are required. Prerequisites: Soc 110Q and Psy 110Q.

340Q. Human Sexuality. (3). Cross-listed as Wom. S. 340. Division B course/elective. Provides a forum for information and discussion on topics relating to physical, psycho-social and cultural components of human sexuality. Includes female and male sexual attributes and roles, sexual problems, alternate life styles, birth control, values and sexuality and cultural components of sexuality.

481. Cooperative Education in Social Work. (1-4). A practical experience with public and private sector agencies which addresses a broad range of individual needs and community problems. Topical journals focus upon individual knowledge and skill development through field experiences while engaged in the major social work curriculum. Repeatable as elective credit not to exceed 12 hours. Graded Cr/NC.

Courses for Undergraduate/Graduate Credit

500. Social Welfare Policy: Analysis and Evaluation. (3). Develops systematic frameworks for examining factors shaping social policy and programs, evaluating major social welfare programs and alternative designs, and engagement of complex community resources in an urban environment. Prerequisites: Pol. S. 121Q or Hist. 120Q, Sc. Wk. 200Q.

502. Social Work Practice: Strategies and Techniques. (4). Introduces the study and practice of interpersonal professional interaction skills within the framework of a social work helping process. Focuses on developing skills in professional observation, communication, interviewing, recording and report ing. Course is didactic as well as interactive and includes an integrated laboratory component which focuses on experiential learning. Required for social work majors. Prerequisite: program admission.

541. Women and Poverty. (3). Cross-listed as Wom. St. 541. Addresses the problem of poverty among women in the U.S. today and examines existing and proposed public policies designed to alleviate the problem. Explores theoretical models of poverty analysis and the role of values in their formulation and implementation. Discusses issues of age, race and family; special attention to poverty among women and children. Prerequisites: 6 hours of social science preferably in women's studies, including Wom. S. 385Q, or instructor's consent.

551. Independent Studies. (1-3). Individual projects for 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.

560. Personal Human Interaction within Society. (3). Provides a beginning theoretical framework within which the integration of prior knowledge can be made regarding physical, mental and social development of the human being, perspectives on American culture and subcultural variations and their effect on human adaptability in the social environment and the relationship of those entities to beginning professional social work practice. Prerequisites: 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 adviser.

570. Internships in Social Work. (3-6). Provides a specially designed field experience for special students who need or desire training that will enhance their professional abilities and for whom academic credit is appropriate. Also meets experiential needs of special designated students for whom academic credit is appropriate. Repeatable for credit not to exceed a total of six hours. Prerequisite: instructor's consent.

600. Social Welfare Development. (3). Develops social work knowledge and skills to foster
Social work models are developed to lessen the social injustice in urban environments with a clear understanding of concepts, principles, techniques and processes of social work methods as they relate to individuals, families and groups and to the larger community. To be taken concurrently with SC. WK. 602 except by departmental consent. Prerequisites: SC. WK. 502 and departmental consent.

601. Advanced Social Work Practice. (3). Advanced practice theory emphasizing becoming both knowledgeable and skillful in applying theory to practice. Focuses on developing a clear understanding of concepts, principles, techniques and processes of social work methods as they relate to individuals, families and groups and to the larger community. To be taken concurrently with SC. WK. 602 except by departmental consent. Prerequisites: SC. WK. 502 and departmental consent.

602. Practicum I. (4). Placement in community social welfare agencies for supervised periods of observation and direct service assignments emphasizing performance of basic practice skills and understanding of the social welfare agency and its role in the community service network. To be taken concurrently with SC. WK. 601 except by departmental consent. Prerequisites: a grade of B or better in SC. WK. 502 and departmental consent.


605. Practicum II. (5). Placement in community social welfare agencies for supervised direct service assignments emphasizing formulation of appropriate goals. Includes the selection of various social work roles and in-depth development of techniques and skills common to practice in the social welfare field. Prerequisite: SC. WK. 602.

610. Topics in Social Work. (1-3). Selected topics in practice, policy, research, and human behavior in the social environment within a selected field of social welfare. This course covers specific topics identified by the department in consultation with major groups of community practitioners, and area service institutions. Repeatable. Prerequisite: instructor or departmental consent.

750. Social Work Workshops. (1-3). Specialized instruction using a variable format in a social welfare relevant subject. Course may be offered together with SC. WK. 150. Prerequisite: instructor's consent.

Interdisciplinary Liberal Arts and Sciences Program

Lower-Division Courses

101. Regents Honors Academy 1. (3). Course material, the content of which is derived from Liberal Arts and Sciences and provides an interdisciplinary focus, is specifically designed for Kansas Regents Honors Academy. Prerequisite: restricted to members of the Kansas Regents Honors Academy.

102. Regents Honors Academy 2. (3). Course material, the content of which is derived from Liberal Arts and Sciences and provides an interdisciplinary focus, is specifically designed for Kansas Regents Honors Academy. Prerequisite: restricted to members of the Kansas Regents Honors Academy.

222Q. East Asia. (3). Cross-listed as Hist. 222, Pol. S. 222 and Rel. 222Q. Division A course/ elective. 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, sociology, philosophy, religion, politics and the economics of each country. Taught by a team of instructors from several departments.

281. Cooperative Education. (1-4). Provides employment opportunities or approves current employment, when appropriate, to integrate academic theory with planned professional experience. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated. Offered Cr/NC only.

Upper-Division Courses

300G. Peace and War: Global Issues. (3). Division A course/elective. An introduction to the study of conditions which have led to war or peace in the past and which may do so now in a nuclear age. Presents diverse views on worldwide issues from the perspectives of the natural and social sciences, the arts and humanities and applied studies.


Italian, Japanese, Latin

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 is available through the general studies program or a Bachelor of Arts degree field major plan.

Group A—Basic Linguistic Theory

Lower-Division Courses

151G. The Nature of Language. (3). Division A course/elective. 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.


Upper-Division Course


Courses for Graduate/Undergraduate Credit


682. Linguistics. Structure of a Selected Non-Indo-European Language. (3). Language offered depends on student demand and availability of staff. May be conducted as a field methods course and is repeatable for credit when different languages are offered. Prerequisite: Ling. 315.

Group B—Linguistic Study of Specific Languages or Language Groups

Courses for Graduate/Undergraduate Credit


505. Russian. Russian Phonology. (2). Cross-listed as Russ. 505.


635. French and Spanish. Introduction to Romance Linguistics. (3). Cross-listed as Fren. 635 and Span. 635.


Group C—Areas of Contact Between Linguistics and Other Disciplines

Lower-Division Courses

220. CDS. Developmental Psycholinguistics. (3). Cross-listed as CDS 220.

301. Philosophy. Language and Philosophy. (3). Cross-listed as Phil. 301.
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Curs e s for Graduate/Undergraduate Credit
590. Linguistics. Special Studies. (2-3). Topic
selected and announced by individual instruc-
tor. Credit is assigned to Group A, B or C
depending on content. Repeatable for credit
courses for graduate/undergraduate credit
590. Linguistics. Special Studies. (2-3). Topic
selected and announced by individual instruc-
tor. Credit is assigned to Group A, B or C
depending on content. Repeatable for credit
classes.

Mathematics and Statistics
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. 543, 547
Group B: Math. 513, 615, 621, 690,
720, 725
Group C: 460, 471, Stat. 571, 572, 574,
576, 711, 772
Group D: Math. 530, 553, 640, 657, 714,
751, 753, 755, Stat. 761, 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 com-
plete Math. 531 and two additional cours-
es 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 two additional
courses from those listed in Group C
and/or D.

For the Bachelor of Science (BS) degree
in mathematics with emphasis in sta-
tistics, students must complete all courses in
Group R and one course in Group A. In
addition, the BS candidate must complete
Math. 553 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, stu-
dents must complete the calculus sequence
(242Q, 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.

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 comple-
tion of college mathematics courses.

011. Beginning Algebra. (5). Offered Cr or NCR
only. Content consists of algebra topics usually
covered in the first year of a standard high
school algebra course. Not applicable to
degree.

012. Intermediate Algebra. (5). Offered Cr/NCR
only. Content consists of topics usually covered
in the second year of a standard high
school algebra course. Prerequisite: Math. 011
or one year of high school algebra, and
qualifying score in recent departmental placement
exam. Not applicable to degree.

013. College Algebra Supplement. (2). A sup-
plement to Math. 111 to be taken concurrently
with designated sections of Math. 111 to allow
students five contact hours for mastering

021. Plane Geometry. (3). Offered Cr/NCR only.
For students without high school credit in
plane geometry. Course may be used to meet
departmental prerequisites in place of one unit
of high school geometry. Prerequisite: one unit
of high school algebra, Math. 011 or concurrent
enrollment in Math. 011. Not applicable to
degree.

Lower-Division Courses
101Q. Mathematics Appreciation. (3). Eleme-
tary topics in mathematics of interest to
persons in other fields. Especially for persons
majoring in nontechnical fields. No credit
or degree.

111. College Algebra. (3). A survey of func-
tions, theory of equations and inequalities,
complex numbers and exponential and loga-
Rithmic functions. High school geometry or
Math. 211 is a highly recommended preparatory
course. Prerequisites: Math. 012 or two
years of high school Algebra and qualifying
score in recent departmental placement
exam. Credit is allowed in only one of the two
courses Math. 111 and Math. 112.

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. Course is not available
for credit to students who have received a grade
of C or better in Math. 242Q or its equivalent.
Prerequisites: Math. 012 or two years of high
school algebra, one unit of high school geom-
etry and qualifying score in recent departmental
placement exam. Credit is allowed only in one
of the two courses Math. 111 or 112.

123. College Trigonometry. (3). Studies the
trigonometric functions and their applications.
Credit in both Math. 123 and 112 is not
allowed. Prerequisite: Math. 111 with C or
better or equivalent high school preparation,
and one unit of high school geometry or Math. 021.

>144. Business Calculus. (3). A brief but care-
ful introduction to calculus for students of
business and economics. Credit in both Math.
144 and 242Q is not allowed. Prerequisite:
Math. 111 or 112 with a grade of C or better
or equivalent high school preparation.

150. Workshop in Mathematics. (1-3). Topics
of interest to particular students and not else-
where available in the curriculum. May be
repeated for a total of six hours credit with
departmental consent. Prerequisite: depart-
mental consent.

211. Elementary Linear Algebra. (3). Covers
topics in linear algebra together with elemen-
tary applications. Prerequisite: one and one-
half units of high school algebra or Math. 011.

>242Q. Calculus I (5). Division C course/elec-
tive. Analytic geometry and the calculus in an
interrelated form. Credit in both Math. 242Q
and 144 is not allowed. Prerequisites: Math.
112 with a grade of C or better or two units of
high school algebra, and one unit of high
school geometry and one-half unit of high
school trigonometry, or Math. 123 and 111
with a grade of C or better in each.

242Q. Includes a study of integration and
applications and an introduction to infinite
series. Prerequisite: Math. 242Q with a grade of
C or better.

Upper-Division Courses
300G. The Evolution of Mathen
Division C course/elective. A study of mathematics and mathematicians from antiquity to the present; to see how mathematics has developed from man's efforts to understand the world and the extent to which mathematics has molded our civilization and culture. Since mathematics is what mathematicians do, the lives of mathematicians from various ages and countries are studied. Not a mathematical skills course.

311. Introduction to Linear Algebra. (3). A study of systems of linear equations, matrices, vectors, eigenvalues and eigenvectors. Credit not allowed in both Math. 211 and 511. Prerequisite: Math. 344 or concurrent enrollment.

331Q. Discrete Mathematics I. (3). Division C course/elective. 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.


415. An Introduction to Advanced Mathematics. (3). Develops the concept of proof in a setting of mathematical tools needed in advanced courses. Covers topics in number theory, algebra and analysis. Particular attention to equivalence relations, functions, induction and mathematical systems. Prerequisite: Math. 344 with a grade of C or better.

480. Individual Projects. (1-5). Repeatability up to ten hours. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit
Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

501. Elementary Mathematics. (3). 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. Prerequisites: elementary education major and Math. 111 or equivalent with a grade of C or better or departmental consent.

511. Linear Algebra. (3). An elementary study of linear algebra, including an examination of linear transformations and matrices over finite dimensional spaces. Prerequisite: Math. 243 with grade of C or better.

513. Fundamental Concepts of Algebra. (3). Defines group, ring and field and studies their properties. Prerequisites: Math. 415 and 511 with C or better or departmental consent.

530. Applied Combinatorics. (3). Basic counting principles, occupancy problems, generating functions, recurrence relations, principles of inclusion and exclusion, the pigeonhole principle, Fibonacci sequences and elements of graph theory. Prerequisite: Math. 344 with a grade of C or better.

531. Introduction to the History of Mathematics. (3). Studies the development of mathematics from antiquity to modern times. Solves problems using the methods of the historical period in which they arose. Requires mathematical skills. Prerequisites: Math. 511 and two additional courses at the 500 level or above, with C or better in each.

545. Integration Techniques and Applications. (3). A study of the basic integration techniques used in applied mathematics. Includes the standard vector calculus treatment of line and surface integrals, Green's Theorem, Stokes' Theorem and The Divergence Theorem. Also includes the study of improper integrals with application to special functions. Prerequisite: Math. 344 with grade of C or better.

547. Advanced Calculus I. (3). Covers the calculus of Euclidean space including the standard results concerning functions, sequences and limits. Prerequisites: Math. 344 and 415 with C or better in each.

550. Ordinary Differential Equations. (3). Includes separation of variables, integrating factors, variation of parameters, undetermined coefficients, Laplace transform and power series substitution. Credit not allowed in both Math. 550 and 555. Prerequisite: Math. 344 with a grade of C or better.

551. Numerical Methods. (3). Approximating roots of equations, interpolation and approximation, numerical differentiation and integration and the numerical solution of first order ordinary differential equations. Some computing use. Prerequisites: Math. 344 with a grade of C or better and a knowledge of FORTRAN, or departmental consent.

553. Mathematical Models. (3). Covers case studies from the fields of engineering technology and the natural and social sciences. Emphasizes the mathematics involved. Each student completes a term project which is the solution of a particular problem approved by the instructor. Prerequisite: Math. 344 with C or better or departmental consent.

555. Ordinary Differential Equations with Linear Algebra. (4). Includes separation of variables, integrating factors, variation of parameters, undetermined coefficients, Laplace transforms, power series substitution, linear algebra, eigenvalue problems, and linear systems. Credit not allowed in both Math. 550 and 555. Prerequisite: Math. 243 with grade of C or better or departmental consent.

556. Selected Topics in Mathematics. (3). Topics chosen from topics not otherwise represented in the curriculum. May be repeated up to a maximum of six hours credit with departmental consent. Prerequisite: departmental consent.

557. Elements of Ordinary Differential Equations. (3). Covers existence, uniqueness, reducing order and other qualitative theories of ordinary differential equations. Prerequisites: Math. 545 or 547 with C or better or departmental consent.

580. Ordinary Differential Equations. (3). Covers existence, uniqueness, stability and other qualitative theories of ordinary differential equations. Prerequisites: Math. 545 or 547 with C or better or departmental consent.

581. Numerical Linear Algebra. (3). Includes analysis of direct and iterative methods for the solution of linear systems, linear least squares problems, eigenvalue problems, error analysis and reduction by orthogonal transformations. Prerequisites: Math. 511, 547 and 551 with C or better in each, or departmental consent.

585. Partial Differential Equations I. (3). Studies the existence and uniqueness theory for boundary value problems of partial differential equations of all types. Prerequisite: Math. 547 with C or better or departmental consent.

equations of mathematical physics, Bessel and Legendre functions and linear systems of ordinary differential equations. No credit for this course toward a graduate degree in mathematics. Prerequisite: Math. 550 or 555 with C or better.

758. Engineering Mathematics II. (3). A survey of some of the mathematical techniques needed in engineering including an introduction to vector analysis, line and surface integrals and complex analysis, contour integrals and the method of residues. No credit for this course toward a graduate degree in mathematics. Prerequisite: Math. 550 or 555 with grade of C or better.

Courses for Graduate Students Only

813. Abstract Algebra II. (3). A continuation of Math. 713. Prerequisite: Math. 713 or equivalent.
816. Selected Topics in Number Theory. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.
825. Topology II. (3). A continuation of Math. 725. Prerequisite: Math. 725 or equivalent.
828. Selected Topics in Topology. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.
829. Selected Topics in Geometry. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.
839. Selected Topics in Foundations of Mathematics. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.
843. Real Analysis II. (3). A continuation of Math. 743. Prerequisite: Math. 743 or equivalent.
845. Complex Analysis II. (3). A continuation of Math. 745. Prerequisite: Math. 745 or equivalent.
848. Calculus of Variations. (3). Includes Euler-Lagrange equations, variational methods and applications to extremal problems in continuum mechanics. Prerequisite: Math. 547 or 757.
849. Selected Topics in Analysis. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent.
854. Tensor Analysis with Applications. (3).

After introducing tensor analysis, considers applications to continuum mechanics, structural analysis and numerical grid generation. Prerequisite: Math. 545 or 757.


857-858. Selected Topics in Engineering Mathematics I and II. (3-3). Advanced topics in mathematics of interest to engineering students, including tensor analysis, calculus of variations and partial differential equations. Not applicable toward the MS in mathematics.
859. Selected Topics in Applied Mathematics. (2-3). Repeatable with departmental consent.
880. Proseminar. (1). Oral presentation of research in areas of interest to the students. Prerequisite: major standing.
881. Individual Reading. (1-5). Prerequisite: departmental consent. Repeatable up to a maximum of six hours with departmental consent.

885. Thesis. (1-4). May be repeated to a maximum of six hours credit. Prerequisite: departmental consent.
952. Advanced Topics in Numerical Analysis. (3). Advanced topics of current research interest in numerical analysis. Topics chosen at instructor’s discretion. 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.
958 & 959. Selected Advanced Topics in Applied Mathematics. (0 &3). Topics of current research interest in applied mathematics. Repeatable for credit with departmental consent. Prerequisite: instructor’s consent.
981. Advanced Independent Study in Applied Mathematics. (1-3). Arranged individually directed study in an area of applied mathematics. Repeatable to a maximum of six hours. Prerequisite: must have passed the PhD qualifying exam and instructor’s consent.
985. PhD Dissertation. (1-9). Repeatable to a maximum of 24 hours. Prerequisite: must have passed the PhD preliminary exam.

Statistics

No major or minor in statistics is available, but a B5 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 nontechnical course stressing and explaining how statistics and probability help solve 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 traditio nal statistical methods and does not require any special knowledge of mathematics.

Upper-Division Courses

360Q. Elementary Probability. (3). Division C course/elective. Includes probability functions, random variables and expectation of finite sample spaces. Prerequisite: Math. 111 with C or better or equivalent.

>370. Elementary Statistics. (3). Surveys elementary descriptive statistics, binomial and normal distributions, elementary problems of statistical inference, linear correlation and regression. Not open to mathematics majors. Prerequisite: Math. 111 with C or better or equivalent.

460. Elementary Probability and Mathematical Statistics. (3). Covers elementary probability concepts, some useful discrete and continuous distributions and mathematical aspects of statistical inference including maximum likelihood estimation, confidence intervals, hypothesis testing and regression. Prerequisite: Math. 243 with grade of C or better.

471. Probabilistic Models and Statistical Methods. (3). Covers axioms of Probability, Bayes’ Theorem, random variables and their distribution, joint distributions of random variables, transformations of random variables, moment generating function, characteristic functions, central limit theorem and other topics with applications to engineering. Prerequisite: Math. 344 with a grade of C or better.

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). Covers topics of interest not otherwise available. Prerequisite: departmental consent.

571-572. Statistical Methods I and II. (3-3). Includes probability models, points and intervals estimators, statistical tests of hypotheses, correlation and regression analysis, introduction to nonparametric statistical techniques, least squares, analysis of variance and topics in the design of experiments. Prerequisite: Math. 243 with C or better or departmental consent.

574. Elementary Survey Sampling. (3). Reviews basic statistical concepts. Covers simple, random, stratified, cluster and systematic
sampling, along with selection of sample size, ratio, estimation and costs. Applications studied include problems from the social and natural sciences, business and other disciplines. Prerequisite: any elementary course in statistics, such as Stat. 370, Soc. 501 or Psy. 401 with a C or better.

576. Applied Nonparametric Statistical Methods. (3) Studies assumptions and needs for nonparametric tests, rank tests and other nonparametric inferential techniques. Applications involve problems from the social and natural sciences, business and other disciplines. Prerequisite: any elementary statistics course such as Stat. 370, Soc. 501 or Psy. 401 with C or better.

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.

762. Applied Stochastic Processes. (3) Studies random variables, expectation, limit theorems, Markov chains and stochastic processes. Prerequisite: Stat. 761 or 771 with C or better or departmental consent.

763. Applied Regression Analysis. (3) Studies linear, polynomial and multiple regression. Includes applications to business and economics, behavioral and biological sciences, and engineering. Uses computer packages for doing problems. Prerequisites: Stat. 571 and Math. 344 and 511 with C or better in each or departmental consent.

764. Analysis of Variance. (3) An introduction to experimental design and analysis of data under linear statistical models. Studies single-factor designs, factorial experiments with more than one factor, analysis of covariance, randomized block designs, nested designs and Latin square designs. Uses computer packages for doing problems. Prerequisites: Stat. 571 and Math. 344 and 511 with C or better in each or departmental consent.

771-772. Theory of Statistics I and II. (3-3) An examination of stochastic dependence distributions of functions of random variables limiting distributions, order statistics, 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.

774. Statistical Computing I. (3) Trains students to use modern statistical software for statistical modeling and writing of technical reports. Examines many of the advanced features of most commercial statistical packages. Students perform complete statistical analyses of real data sets. Prerequisites: Stat. 763 and 764 or departmental consent.

775. Applied Statistical Methods I. (3) Covers selected topics from time series analysis including basic characteristics of time series, autocorrelation, stationarity, spectral analysis, linear filtering, ARIMA models, Box-Jenkins forecasting and model identification, classification and pattern recognition. Prerequisite: Stat. 863 with a grade of C or better or departmental consent.

776. Applied Statistical Methods II. (3) Covers selected topics from multivariate analysis including statistical theory associated with the multivariate normal, Wishart and other related distributions, partial and multiple correlation, principal component analysis, factor analysis, classification and discriminant analysis, cluster analysis, James-Stein estimates, multivariate probability inequalities, majorization and Schur functions. Prerequisite: Stat. 764 with a grade of C or better or departmental consent.

Courses for Graduate Students Only

861. Theory of Probability. (3) The axiomatic foundations of probability theory 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.


872-873. Theory of Linear Models I and II. (3-3) An introduction to the theory of linear models and analysis of variance. Includes 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.

875. Design of Experiments. (3) A study of basic concepts of experimental design which include completely randomized design, randomized block design, randomization theory, 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.

876. Nonparametric Methods. (3) An introduction to the theory of nonparametric statistics. Includes order statistics; tests based on runs; tests of goodness of fit; rank-order statistics; one- and two- and k-sample problems; linear rank statistics; measure of association for bivariate samples; and asymptotic efficiency. Prerequisite: Stat. 772.


878. Special Topics. (2-3) Repeatable with departmental consent. Prerequisite: departmental consent.

879. Individual Reading. (1-5) Prerequisite: departmental consent.

884. Statistical Computing II. (3) Teaches special graphics and numerical methods needed in the analysis of statistical data. Includes advanced simulation techniques, numerical methods for linear and nonlinear problems, analysis of missing data, smoothing and density estimation, projection-pursuit methods and graphic techniques. Prerequisites: Math. 751 and Stat. 772 with C or better or departmental consent.

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. Prerequisite: instructor's consent.

978. Advanced Independent Study in Probability and Statistics. (1-3) Arranged individually. Prerequisite: credit in area of probability or statistics. Repeatable to a maximum of 6 hours. Prerequisites: must have passed the PhD qualifying exam and instructor's consent.

986. PhD Dissertation. (1-9) Repeatable to a maximum of 24 hours. Prerequisite: must have passed the PhD preliminary exam.

Minority Studies

See Hugo Wall School of Urban and Public Affairs.

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, Greek, Latin or Spanish.

A wide range of courses in language, literature, civilization, translation, and linguistics are offered on campus as well as in summer programs in Puebla, Mexico, and Strasbourg, France. Wichita State University has a special exchange program with Wichita's French sister city, Orleans. Through this program, students pay their tuition and fees at WSU and do academic work in their chosen field at the Universite d'Orleans. Students receive direct credit at WSU for all credit earned in Orleans. Scholarships are available for the study-abroad programs. In addition, the Eugene Saveliano scholarship is given to one outstanding high school senior who plans to major in any of the romance languages at Wichita State. Graduate stu-
sents interested in applying for teaching assistantships and graduate research assistantships should consult the graduate catalog or the graduate coordinator.

Retroactive Credit Policy
Qualified students may earn college credit for previous language experience by successfully completing a language course, or courses, at the appropriate level.

Based on their previous experience, students enroll at their predicted level. Normally, predicted entry level is calculated by assuming that one year of high school language is the equivalent to one semester of college language.

Students must apply for retroactive credit during the semester in which they are enrolled in the retroactive credit eligible course(s). Deadline for application will be announced in all language classes.

If a student successfully completes the course, or courses (with a grade of C or better), the student receives the graded credit hours for that course, or courses, and the appropriate number of ungraded retroactive credit hours.

Chinese
Lower-Division Courses
111. Elementary Chinese I. (5). An introduction to the Chinese language emphasizing the basic elements of learning the fundamentals of speaking, understanding, reading and writing modern Chinese.

112. Elementary Chinese II. (5). Continuation of Chinese 111; emphasizes learning the fundamentals of pronunciation, speaking, understanding, reading and writing the language. Prerequisite: Chinese 111 or an equivalent learning experience.

220. Intermediate Chinese. (5). Continues development of speaking, reading, and writing skills. Prerequisite: Chinese 112 or departmental consent.

French
Major. A major in French consists of a minimum of 33 semester hours beyond Fren. 112 or its equivalent, and must include the following courses: Fren. 220, 222, 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 general 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 required by the Teacher Education Program (see College of Education).

Minor. A minor in French consists of a minimum of 12 semester hours beyond Fren. 112 and must include Fren. 220, 222, 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.

Lower-Division Courses
111-112. Elementary French. (3-5). An introductory course emphasizing speaking, reading, writing and grammar essentials. Requires daily classroom and laboratory work.

150. Workshop in French. (2-4). Repeatable for credit.

>210Q. Intermediate French. (3). Division A course/elective. French review emphasizing conversation, folklore and modern culture. Prerequisite: two units of high school French or Fren. 112 or departmental consent.

215. Study Abroad. (3-6). Transfer of credit from a French-speaking university in (a) grammar, (b) conversation, (c) reading.

220. Intermediate French Grammar and Composition. (3). A review of elementary French grammar designed to improve proficiency in written expression through use of various tenses and turns of phrase in compositions assigned on a regular basis. Prerequisite: Fren. 112 or departmental consent.

223. Intermediate French Readings I. (3). Intensive reading of French literary works of the modern period. Course may be used to meet the LAS literature requirement. Prerequisite: Fren. 112 or equivalent.

227. French Conversation. (1-3). Assignments to increase oral fluency. Emphasizes learning new vocabulary and idiomatic structures. Exercises in the language laboratory. Prerequisite: Fren. 112 or equivalent.

Upper-Division Courses
300. Intermediate French Readings II. (3). Intensive reading and analysis of French literary works of all periods. Course may be used to meet the LAS literature requirement. Prerequisite: Fren. 223 or equivalent.

Courses for Graduate/Undergraduate Credit
Upper-division courses are given on a rotating basis. Fren. 300 is a prerequisite for all upper-division literature and civilization courses, unless otherwise indicated. All literature courses, including Fren. 223 and 300, may fulfill the general education literature requirement.


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, (h) civilization, (i) translation, (k) conversation and (m) phonetics. Repeatable for credit. Prerequisite: departmental consent.

525. Advanced Conversation. (3). Designed to increase proficiency in spoken French. Assignments include oral reports, dialogs, and work in the language laboratory. Prerequisite: Fren. 227 and either 220 or 223, or departmental consent.

526. Advanced Composition and Grammar. (3). Emphasizes theme writing, original compositions and detailed study of modern French grammar. Prerequisite: Fren. 220 or departmental consent.

540Q. French Literature in English Translation. (3). Division A course/elective. 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.

541Q. French Literature of Africa and the Caribbean in English Translation. (3). Division A course/elective. A study of the concept of Negritude through the works of major contemporary African and Caribbean writers. No knowledge of a foreign language is necessary.
Course may count toward a French major or minor if readings and papers are done in French.

551. 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. 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: Fren. 300.

552. Contemporary French Civilization. (3). Emphasizes the major events, themes, ideas, trends and movements in French civilization since the Revolution. Course is interdisciplinary in nature and is designed to complement French language and literature courses. Class work and readings are in French. Prerequisite/corequisite: Fren. 300.

623. Seminar in French. (3). Seminar in French literature, language or civilization. Prerequisite: Fren. 300. Repeatable for credit.


631. 17th Century French Literature. (3). Prerequisite: Fren. 300.

632. 18th Century French Literature. (3). Prerequisite: Fren. 300.


634. Contemporary French Literature. (3). Prerequisite: Fren. 300.

635. Introduction to Romance Language Linguistics. (3). Cross-listed as Span. 635 and Ling. 635. An introduction to the historical phonology and morphology of the romance languages emphasizing French and Spanish. Prerequisite: departmental consent.

636. 20th Century French Literature. Reading and discussion of major works of French fiction, poetry and drama from 1900 to 1960. Prerequisite: Fren. 300.

726. Composition and Stylistics. (3). Offers background in rhetoric and stylistics as an approach to literary models, with a view to developing the creative use of style together with grammatical accuracy in writing. Practice in revision forms the basis of this course. Prerequisites: Fren. 326 or departmental consent.

750. Workshop in French. (2-4). Repeatable for credit.

Course for Graduate Students Only

815. Special Studies in French. (3). Prerequisite: departmental consent. Repeatable for credit.

German

Major A. A major in German consists of a minimum of 24 hours beyond the level of Germ. 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 Germ. 324, 341 or 441Q, 524, Eng. 315 and at least six hours in Germ. 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 Germ. 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 Germ. 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 Fairmount College of Liberal Arts and Sciences or in the College of Education includes 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)
3. Basic courses in education: required by the Teacher Education Program. (See College of Education.)

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: Germ. 341, 441Q or 641.

Noncredit Course

010. German for Graduate Reading Examination. (0). A reading course; prepares students to fulfill departmental requirements of a reading knowledge of German for the master of arts or master of science. Requires no previous knowledge of German. Course does not count toward a degree. Offered Cre/NC only.

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 Germ. 111.

102. Beginning German II. (3). A continuation of Germ. 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 Germ. 112. Prerequisite: Germ. 101.

111-112. Elementary German. (5-5). An introductory course emphasizing speaking, reading, writing and grammar essentials. Requires daily classroom and laboratory work.

>220Q. Continuing German. (5). Division A course/elective. Grammar review and cultural readings primarily for students meeting the foreign language graduation requirement of Fairmount 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.

223. Intermediate German I. (3). Intensive reading and discussion of short works. Prerequisite: Germ. 112 with grade of C or better or departmental recommendation to transfer from Germ. 220Q.

225. German Conversation. (2). The development of oral fluency. Prerequisite: Germ. 220Q or 223. May be taken concurrently with Germ. 223.

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: Germ. 112 or instructor's consent.

324. Intermediate Conversation and Composition. (2). Emphasizes development of written skills as conversational practice continues. Prerequisite: Germ. 225 or instructor's consent.

341. Civilization of the German-Speaking Countries. (3). Selected topics on significant aspects of life and thought in Germany, Austria and Switzerland. Emphasizes the modern period with special attention to the interrelation of cultural trends. A knowledge of German is not required.

344Q. Intermediate German II. (3). Division A course/elective. Readings in German civilization accompanied by extensive studies of selected literary works. Prerequisite: Germ. 223 or equivalent.

411Q. Culture of Contemporary Germany. (3). Division A course/elective. Study of the cul-
ture and life in the Federal Republic of Germany and the German Democratic Republic from 1945 to 1989 and the new unified Germany. A knowledge of German is not required. Does not count toward fulfillment of language requirement.

Courses for Graduate/Undergraduate Credit

524. Advanced Conversation and Composition (3). Prerequisites: Germ. 524 or instructor's consent.

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; literature of both Germans since 1945; (e) special topics in literature, repeatable once for credit; (f) special topics in language, repeatable once for credit. Prerequisite: Germ. 344 or instructor's consent.

726. Advanced Stylistics. (3). Offers advanced background in rhetoric and stylistics as an approach to literary models, with a view to developing the creative use of style together with grammatical accuracy in writing. Practice in revision forms the basis of this course. Prerequisites: Germ. 524 or departmental consent.

750. Workshop in German. (2-4). Repeatable once for credit.

751. German Civilization since the Middle Ages. (3). Survey of German civilization from the Middle Ages to the present. Emphasizes the social, political, historical and intellectual evolution of the German-speaking countries. Special attention paid to the foundation of the German Reich in 1871, World War I, the Weimar Republic, National Socialism and the Holocaust, the creation of the Federal Republic and the German Democratic Republic in 1949, and the reunification process initiated in 1989. Prerequisites: Germ. 441Q or departmental consent.

752. German Literature from the Eighteenth Century to the Present. (3). The following offerings available: a) Genre Studies: novel, novella, prose, and poetry; b) Literary Movements: romanticism, realism, fin de siècle, expressionism, post-1945 literary trends; c) Major Authors: Goethe, Schiller, Rilke, Kafka, Boll, Grass, Wolf; d) Special Topics: intellectual life in Weimar Germany, literature and exile, literature and film; writers in East and West Germany. May be repeated for credit. Prerequisites: Germ. 650 or departmental consent.

Course for Graduate Students Only

815. Special Studies in German. (3). Readings in German literature or culture. May be repeated for credit when the topic changes. Prerequisite: graduate standing or departmental consent.

Greek (Ancient Classical)

There is no major in Greek. A minor consists of 11 hours beyond the 111-112 level.

Lower-Division Course

111. Elementary Greek. (5). Presents the basic grammar of Ancient Classical Greek, and emphasizes early reading.

112. Elementary Greek. (5). Continues the presentation of the basic grammar of Ancient Classical Greek, and emphasizes early reading.

122. Intermediate Greek. (3). Homer's Iliad. Prerequisite: Greek 223.

Courses for Graduate/Undergraduate Credit

515. Special Studies. (1-4). Topic announced by instructor. Repeatable for credit. Prerequisite: Greek 224 or instructor's consent.

531. Advanced Greek. (3). Sophocles and Euripides. Prerequisite: Greek 224.

532. Advanced Greek. (3). Thucydides. Prerequisite: Greek 531.

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


220. Intermediate Italian Grammar and Composition. (3). Prerequisite: Ital. 112 or equivalent.

223-224. Selected Italian Readings. (3-3). Intensive reading of Italian literary works. Features discussions in Italian, as well as oral and written summaries. Prerequisite: Ital. 112 or two units of high school Italian for Ital. 223; Ital. 223 or three high school units for Ital. 224.

225. Intermediate Conversation. (2). Prerequisite: Ital. 112 or departmental consent.

Course for Graduate/Undergraduate Credit

515. Major Topics. (2-4). Special studies in Italian language, literature and civilization. Repeatable for credit. Prerequisite: departmental consent.

Japanese

Lower-Division Courses

111. Elementary Japanese I. (5). An introduction to the Japanese language emphasizing the basic elements of learning the fundamentals of pronunciation, speaking, understanding, reading and writing. Prerequisite: Japanese 111 or an equivalent learning experience.

220. Intermediate Japanese. (5). Continues development of speaking, reading and writing skills. Prerequisite: Japanese 112 or departmental consent.

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 in either Fairmount College of Liberal Arts and Sciences or in the College of Education includes at least 24 hours beyond Latin 111-112 as listed under Major A, plus the basic courses required by the Teacher Education Program.

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)

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


150. Workshop in Latin. (2-4). Repeatable for credit.

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.

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.

Courses for Graduate/Undergraduate Credit

Latin 224 or departmental consent is the prerequisite for all upper-division courses.

541. Roman Lyric Poetry. (3). The lyric poems of Catullus and Horace emphasizing imagery, symbolism, structure, diction and meter.
542. Vergil’s Aeneid. (3). Selected books of the Aeneid in the original and the rest in translation. Studies imagery, symbolism, structure, meter and diction. Gives consideration to the place of the Aeneid in the Augustan Rome and in the epic tradition.

543. Roman Drama. (3). A study of Roman comedy and tragedy, their Greek background and their influence on European literature. Includes selected plays of Plautus, Terence and Seneca, some in the original and some in translation.

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. Gives consideration to the development of the novel from its Greek beginnings up to the time of Apuleius and beyond.

546. Advanced Latin. (3). Directed reading of Latin. Reading may be combined with Latin prose composition at the option of the students. Repeatable for credit when content varies.


652. Cicero. (3). The orations, letters and essays of Cicero. 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.

653. Lucretius and Epicureanism. (3). Reading of Lucretius’ De Rerum Natura and study of Epicureanism, the atomic theory and Democritian materialism. Gives consideration to the place of Lucretius in Latin poetry.

750. Workshop in Latin. (2-4). Repeatable for credit.

Portuguese

No major or minor is offered in Portuguese.

Noncredit Course

606. 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.

Russian

There is no major in Russian. A minor in Russian consists of a minimum of 12 hours beyond the Russ. 111-112 level and must include at least one 300-level and one 500-level course.

Lower-Division Courses

111. Elementary Russian. (5). A presentation of the sounds and structure of Russian to develop the four basic skills of understanding, speaking, reading and writing.

112. Elementary Russian. (5). A continuation of Russian 111 to complete the presentation of elementary Russian grammar and enhance the four basic skills. Prerequisite: Russian 111 or equivalent.

>210Q. Intermediate Russian. (5). Reading, grammar review and audiovisual presentations in Russian to enhance listening comprehension, speaking, reading and basic writing skills. Prerequisite: Russian 112 or equivalent.

224. Intermediate Russian. (3). A continuation of Russian 210Q; further enhancement of listening comprehension and speaking, reading and writing skills. Prerequisite: Russian 210Q or instructor’s consent.

225. Russian Conversation and Composition. (2). Development of oral and written skills. May be taken concurrently with Russian 224. Prerequisite: Russian 112 or instructor’s consent.

Upper-Division Courses

300. Intermediate Russian Readings (3). Intensive reading and analysis of Russian literary works of all periods. Prerequisite: Russian 224 or instructor’s consent.

325. Intermediate Russian Conversation and Composition. (2). Continued development of speaking and listening skills, focusing on the vocabulary of everyday Russian life and idiomatic usage. Prerequisite: Russian 224 or 225 or instructor’s consent.

Courses for Graduate/Undergraduate Credit

505. Russian Phonology. (2). Cross-listed as Ling. 505. Corrective pronunciation and auditory perception for non-native speakers of Russian. Includes articulatory phonetics, phonemics, and morphphonemics, as well as the study and production of intonation contours (intonačnaya konstrukciya). Prerequisite: any 200-level course or instructor’s consent.

515. Special Studies. (1-3). Advanced reading and translation in Russian social sciences, literature, and civilization. Repeatable for credit. Prerequisite: departmental consent.

540Q. Russian Literature in English Translation. (3). Consideration of the works of one or two major authors, a literary movement, trend, or specific genre. No knowledge of Russian is necessary, although some is desirable. Repeatable once for credit. Prerequisite: departmental consent.

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. 505, 515 or 622, 552, 557, 626, 627 and 635.

Teaching. The major with teaching emphasis in Spanish in either 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.

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. Spanish majors seeking teacher certification must also complete the basic courses required by the Teacher Education Program (see College of Education.) 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 are 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). Emphasizes the four fundamental skills in language learning: understanding, speaking, reading and writing. 

150. Workshop in Spanish. (2-4). Repeatable for credit.

210Q. Intermediate Spanish. (5). Division A course/elective. Continues the four fundamental skills in language learning: understanding, speaking, reading and writing. Emphasizes conversation and cultural readings. Not open to students with previous credit in Span. 221 (no longer offered). Prerequisite: Span. 112, two units of high school Spanish or departmental consent.

215. Intermediate Spanish II. (5). Intensive review of Spanish; special emphasis on conversation. Course offered only in Puebla, Mexico. Prerequisite: Span. 112, two units of high school Spanish or departmental consent.

220. Intermediate Spanish Grammar and Composition. (3). Prerequisite: Span. 210Q or three units of high school Spanish or departmental consent.

223. Selected Spanish Readings. (3). Intensive reading of Latin-American and Spanish literary works. Also includes outside readings and reports. Course may be used to meet the LAS literature requirement. Prerequisite: Span. 210Q or three units of high school Spanish or departmental consent.

225. Spanish Conversation I. (2). Prerequisite: Span. 210Q or three units of high school Spanish or departmental consent. Should be taken with Span. 220.

281. Cooperative Education. (1-4). 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 appropriate faculty sponsors. May be repeated. Prerequisite: Span. 225. Offered Cr/NCr only.

Upper-Division Courses

300. Intermediate Spanish Readings. (3). Intensive reading and analysis of Spanish literary works of all periods. Course may be used to meet the LAS literature requirement. Prerequisite: Span. 223 or departmental consent.

325. Spanish Conversation II. (2). Continuation of Span. 225 with continued emphasis on fluency in Spanish and on vocabulary building. Prerequisite: Span. 225 or departmental consent.


Courses for Graduate/Undergraduate Credit

Upper-division courses are given on a rotating basis. Span. 300 is a prerequisite for all upper-division literature and civilization courses, unless otherwise indicated. All literature courses, including Span. 223 and 300, may fulfill the general education literature requirement.

505. Spanish Phonetics. (2). Cross-listed as Ling. 505. Prerequisite: any 200-level course or departmental consent.

515. Major Topics. (1-4). Special studies in (a) language, (b) literary reports, (c) commercial Spanish, (d) the language laboratory, (e) music, (f) composition, (g) problems in teaching Spanish, (h) advanced conversation. Repeatable for credit. Prerequisite: departmental consent.

525. Spanish Conversation III. (2). Prerequisite: Span. 325 or departmental consent.

526. Advanced Grammar and Composition. (3). Prerequisite: Span. 220 or departmental consent.

531. Survey of Spanish Literature. (3). Main currents of Spanish literature from 1700 to the present. Prerequisite: Span. 300 or departmental consent.

532. Survey of Spanish Literature. (3). Spanish literature from the beginning to 1700. Prerequisite: Span. 300 or departmental consent.

534. Contemporary Spanish Theater. (3). Prerequisite: Span. 300 or departmental consent.

536. Contemporary Spanish Novel. (3). Prerequisite: Span. 300 or departmental consent.

540Q. Contemporary Spanish Literature in English Translation. (3). Division A course/elective. Content may vary from semester to semester, including Spanish and/or Latin-American literature. No knowledge of a foreign language is necessary. Course may count towards a Spanish major or minor with departmental consent if reading is done in Spanish and prerequisite of Span. 300 is met. Repeatable for credit. Prerequisite: departmental consent when counted toward a Spanish major or minor.

552. Business Spanish. (3). Provides the opportunity to learn and practice commercial correspondence, business vocabulary, translation and interpretation of business texts. Prerequisite: Span. 526.

557. Literary and Technical Translating. (3). Extensive translation of literary works and technical and legal documents from Spanish to English and to Spanish. Prerequisite: Span. 526 or departmental consent.

560. Survey of Latin-American Literature. (3). Main currents of Latin-American literature from 1500 to 1800. Prerequisite: Span. 300 or departmental consent.

561. Survey of Latin-American Literature. (3). Main currents of Latin-American literature from 1300 to 1800. Prerequisite: Span. 300 or departmental consent.

562. Special Studies. (1-4). Topic for study chosen with aid of instructor. Repeatable for credit. Prerequisite: instructor's consent.

563. 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.

625. Contemporary Latin-American Novel. (3). Prerequisite: Span. 300 or departmental consent.

626. Spanish Civilization. (3). Intensive study of Spanish culture, including historical and geographical factors in its development and its contributions to world civilization. Prerequisite or corequisite: Span. 300 or departmental consent.

627. Latin-American Civilization. (3). Intensive study of Latin-American culture, including the historical and geographical factors of its development and its contributions to world civilization. Prerequisite or corequisite: Span. 300 or departmental consent.

628. Contemporary Latin-American Theater. (3). A study of contemporary theater from 1900 to the present. Prerequisite: Span. 300 or departmental consent.

631. Latin-American Short Story. (3). Study of the main writers in contemporary Latin-American literature. Prerequisite: Span. 300 or departmental consent.

635. Introduction to Romance Linguistics. (3). Cross-listed as Fren. 635 and Ling. 635. An introduction primarily to the historical phonology and morphology of the romance languages emphasizing French and Spanish. Prerequisite: departmental consent.

640. Mexico: Its People and Culture. (3). Study of the cultural development of Mexico, exploring the legacy of ancient cultures and the Spanish encounter in areas such as literature, the arts, music and film industry. Prerequisite: Span. 300 or departmental consent.

720. Theory and Practice for University Teaching. (2). Deals with recent theories of language acquisition and their application to the teaching of Spanish. Required for teaching assistants. Prerequisite: graduate standing.

750. Workshop in Spanish. (2-4). Repeatable for credit.

Courses for Graduate Students Only


826. Grammar and Stylistics. (3). Intensive study of advanced grammar and stylistic usage.

827. Latin American Civilization and Culture. (3). Introduction to historical and cultural development in Latin America, exploring the legacy of the Spanish encounter/conquest. Emphasis is on Spanish colonization. Prerequisite: graduate standing.
312Q. Philosophy of Law. (3). Division A course/elective. An introduction to philosophical problems arising in the theory and practice of law. Includes the objective basis of legal systems, the relationship between morality and legality, the justifiability of civil disobedience, the limits of legal constraints on the individual and the nature and justification of punishment. Attention to classical and contemporary readings.

313Q. Political Philosophy. (3). Division A course/elective. An examination of various philosophical issues concerning political systems. Discusses issues such as the nature of political authority, the rights of individuals, constitutionalism and civil disobedience.

315. Late Modern Philosophy. (3). A study of philosophical thought in the 18th century with selections from philosophers 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.

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.

322Q, Early Modern Philosophy. (3). Division A course/elective. A study of philosophical thought in the period from the Renaissance through the 17th century with selections from philosophers such as Pico, Vico, Galilei, Cusanus, Telesio, Erasmus, More, Hobbes, Bacon, Machiavelli, Descartes, Spinoza, Leibniz, Malebranche and Locke.

325. Formal Logic. (3). Cross-listed as Ling. 325. A study of systems of formal logic including sentential and predicate logic. Emphasizes the uses of these systems in the analysis of arguments.

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. Examines topics such as the concept of health, rights of patients, the medical team, professional rights and responsibilities, behavior control, euthanasia and institutional care. For the layperson as well as the medical professional.

331Q. Ancient Greek Philosophy. (3). Division A course/elective. An examination of the development of Greek philosophy in its major phases, including an exploration of the Milesian and Eleatic traditions, Pythagoras, the Atomists, the Pluralists, the Sophists, Socrates, Plato and Aristotle.

338. Philosophy of Feminism. (3). Cross-listed as Wom. S. 338. An exploration of philosophical issues raised by the feminist movement emphasizing conceptual and ethical questions.
354. Ethics and Computers. (3). Ethics with examination of some basic religious problems such as the nature and grounds of religious belief, religious language, the existence and nature of God, human immortality and the problem of evil.

355. Ethics. (3). Ethics with examination of some basic religious problems such as the nature and grounds of religious belief, religious language, the existence and nature of God, human immortality and the problem of evil.

356. Ethics and Computers. (3). Ethics with application to the ethical issues which may arise from the use of computers. Attention to such specific topics as the moral responsibility of computer professionals for the effect their work has on persons and society; the moral obligation of computer professionals to their clients, employer and society; the conceptual and ethical issues surrounding the control and ownership of software; and the justifiability of regulation of the design, use and marketing of computer technology. Prerequisite: junior standing or departmental consent.

360. Ethical Theory. (3). A study of selected topics in ethics. Investigates 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. Prerequisite: one course in philosophy.

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. Includes the problem of tragedy, the character of the aesthetic attitude, the function of the arts, the legitimacy of general art theory, the presuppositions of specialized art theory the creative act, art and truth, art and life and the nature and function of art criticism.

400. Honors Seminar. (3). Cross-listed as Hns. 400. An honors course on a special topic, to be announced. Repeatable for credit up to six hours. Prerequisite: honors student or departmental consent.

Courses for Graduate/Undergraduate Credit

518. Recent British-American Philosophy. (3). Examination of philosophical ideas and movements in recent British and American philosophy. Discusses movements such as logical positivism, pragmatism, ordinary language philosophy and analytic philosophy. Readings are selected from figures such as Russell, Wittgenstein, Pierce, Dewey and Quine.

519. Emancipation. (3). A study of the philosophical views that emphasize experience rather than reasoning as a source of knowledge with particular attention to the philosophical slips of Descartes, Spinoza, and Leibniz.

549. Topics in Ancient Philosophy. (3). Explores one or more issues in philosophy from the time of Thales through the Stoics. The examination of an issue may confine itself to one period within the time 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 nature of philosophical inquiry.

560. Metaphysics. (3). An exploration of some basic topics in the theory of reality. Includes such notions as space, time, substance, causality, particulars, universals, appearance, essence and being. Prerequisite: one course in philosophy.

555. Philosophy of the Social Sciences. (3). Studies such topics as the relations of social science with natural science and philosophy, methodological problems peculiar to social science, the nature of sound explanation concepts and constructs and the roles of mathematics and formal theories in social science.

557. Contemporary European Philosophy. (3). An exploration of a theme, issue, philosopher or movement in contemporary European philosophy. Includes such philosophers as Husserl, Heidegger, Jaspers, Gadamer, Habermas, Marcuse, Adorno, Bergson, Sartre, Merleau-Ponty, Bachelard, Lacan, Derrida, Foucault and Ricoeur. Examines philosophical movements such as phenomenology, idealism, existentialism, structuralism, process philosophy, hermeneutics and Marxism.

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.

590. Special Studies. (3). Topic for study announced by instructor. Repeatable for credit. Prerequisite: instructor's consent.

674. Artificial Intelligence and Philosophy. (3). Cross-listed as CS 674. Transfer of ideas between artificial intelligence and philosophy: concept and techniques of artificial intelligence and their application in philosophy (search, heuristic, problem solving, knowledge representation, learning, discovery); 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." Discusses the relevance of Godel's theorem and of other results in the domain of computability in this context. Prerequisite: 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.

699. Directed Reading. (2-3). For the student interested in doing independent study and research in a special area of interest. Repeatable for credit. Prerequisite: departmental consent.

Courses for Graduate Students Only

805. Business and Morality. (3). Critically examines moral issues particularly germane to business. Includes theories of distributive justice, theories of property rights, the role of business as a social institution, employment rights and obligations, environmental issues and theories of socially responsible investment practices. Readings from classical and contemporary authors.

850. Directed Reading. (3). For the graduate student desiring independent study and research in an area of special interest. May be repeated for credit. Prerequisite: departmental consent.

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 and also provides the opportunity for the student to explore areas of individual interest through special projects.

Major. The following courses are required for the physics major: Phys. 213Q-214Q or 313Q-314Q, 315Q-316Q, 551, 611, 621, and 631-632; Math. 550 or 555 and 545, 547, or 757; and five hours of chemistry.

For the Bachelor of Arts (BA) degree, two additional hours of Phys. 516, 517, or 616 are required. Six additional hours of upper-division physics also are required.

For the Bachelor of Science (BS) degree, Phys. 516, three semesters chosen from Phys. 516 and 517, six additional upper-division hours in 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, bio-
logical sciences and education.

Minor. A minor in physics consists of Phys. 213Q-214Q or 313Q-314Q-315Q-316Q and at least six additional hours of physics courses numbered above 500.

Lower-Division Courses

>311Q. Introductory Physics. (4) 3R, 3L. Division C course/elective. A general physics course for liberal arts students and those who have not had physics in high school. Includes mechanics, heat, electricity and magnetism, wave phenomena and modern physics. Not open to students who can meet prerequisites for Phys. 313Q. Prerequisite: two years of high school algebra or one each of algebra and geometry or equivalent.

>315Q. University Physics I. (4). Division C course/elective. The first semester of a calculus-based physics sequence. Studies mechanics, heat and wave motion. High school physics is recommended as preparation for this course. Natural science majors are required to take the lab Phys. 315Q that accompanies this course. Credit is not given for both Phys. 213Q and 315Q. Corequisite: Math. 243.

314Q. University Physics II. (4). Division C course/elective. The second semester of a calculus-based physics sequence. Studies electricity, magnetism and light. Natural science majors are required to take the lab Phys. 314Q that accompanies this course. Credit is not given for both Phys. 214Q and 314Q. Prerequisite: Math. 243 with a grade of C or better and Phys 213Q with a grade of B or better or Phys. 313Q.


395Q. Solar System Astronomy. (3). Division C course/elective. Studies the sun, major planets and minor bodies of the solar system, particularly their nature and origin. Discusses classical ground-based observations and the results of satellite investigations. Primarily for students with little prior contact with science.

481. Cooperative Education in Physics. (1-4). Complements and enhances the student's academic program by providing an opportunity to apply knowledge gained through course work to job-related situations. No more than four hours earned in Phys. 481 may be applied toward satisfying the requirements for a major in physics. Offered Cr/NCr only. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit

501. Special Studies in Physics for Educators. (1-3). 3L. A series of courses covering basic physical concepts which provide physical science background for teachers. Repeatable for a maximum of 5 hours. Prerequisite: in-service or pre-service teacher.

516. Advanced Physics Laboratory. (2). 4L. Experiments in classical and modern physics 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.

551. Topics in Modern Physics. (3). An introduction to selected areas of modern physics emphasizing the features of atomic nuclear and solid state physics that require modifications of classical physics for their explanation. Prerequisites: Phys. 214Q or 314Q or departmental consent. Corequisite: Math. 344.

553. Modern Optics. (3). Geometrical and physical optics, coherence theory, and Fourier optics. Additional topics may include radiation, scattering, optical properties of solids, and optical data processing. Prerequisites: Phys. 214Q or 314Q and Math. 344.

560. Stellar Astrophysics. (3). Focuses on the application of basic physical principles to the study of stars. Includes 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.

595. Galactic and Extragalactic Astronomy. (3). Primary topics are galaxies and the structure of the universe. Includes the constituents and dynamics of our galaxy, the characteristics of normal galaxies, active galaxies and quasars, and cosmology. Prerequisite: Phys. 551.

600. Individual Readings in Physics. (1-3). Repeatable but total credit may not exceed six hours for physics majors. Prerequisite: departmental consent.

610. Individual Readings in Astrophysics. (1-3). Studies several topics in astronomy and astrophysics in depth. Lectures, independent readings, and student projects may be assigned. May be repeated up to six hours. Prerequisite: instructor's consent.

611. Modern Physics I. (3). Introduction to quantum mechanics, the Schrödinger equation, elementary perturbation theory and the hydrogen atom. Prerequisite: Phys. 551.


616. Computational Physics Laboratory. (2). 3R; 2L. Provides a working knowledge of computational techniques with applications in both theoretical and experimental physics, including a brief introduction to the FORTRAN language. Prerequisites: Phys. 551 and Math. 550 or 555.

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. 214Q or 314Q and Math. 344 with grades of C or better.

625. Electronics. (2). 1R; 4L. 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.
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. 214Q or 314Q and Math. 344 with grades of C or better.

632. Electricity and Magnetism II. (3). A continuation of Phys. 631. Prerequisite: Phys. 631 or instructor's consent.

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. Chemists and physicists discuss standard experimental and theoretical techniques used in chemical physics research. Prerequisites: Chem 641 or instructor's consent.


714. Theoretical Physics. (3). Cross-listed as Math. 714. A study of mathematical techniques that may be applied to physics and other sciences. Includes power series methods, WKBJ method, contour integration, integral transforms, Hilbert space, special functions and solutions of partial differential equations. Prerequisites: Math. 550 and instructor's consent.

Political Science

Politics—a means of managing conflict and distributing the materials of society among its members—affects everyone because everyone lives in society and conflict exists in every society. This fact led the Greek philosopher Aristotle to observe centuries ago that "man by nature is a political animal." While contemporary political scientists approach the study of politics in a variety of ways, all agree that politics is a central characteristic of human activity.

Political science students at Wichita State University take courses in at least four of the five subject areas: (1) American politics and institutions, (2) comparative politics, (3) international politics, (4) political theory and philosophy, and (5) public administration. Most political science majors supplement their curriculum by taking elective hours in the humanities—history, philosophy and literature, for example—and in other social sciences, such as economics, anthropology, sociology and psychology. The department also recommends that students take courses in statistics and computer applications.

Students with political science degrees may become practicing politicians or they may pursue careers in public administration, government service, law, journalism, business or teaching at the secondary or college level.

The political science degree program at Wichita State is designed to accommodate these career interests as well as others. The requirements for the major are flexible enough to permit students to concentrate in one or two areas.

Major. A major consists of Pol. S. 121Q and 20 additional hours, including at least one course in four of the five groups below.

Minor. A minor consists of Pol. S. 121Q and 12 additional hours, at least six of which must be in upper-division courses.

Group 1, Political Theory and Philosophy—Pol. S. 232Q, 345, 444 or 547
Group 2, American Politics—Pol. S. 315, 316Q, 317, 318, 319, 358Q, 551 or 552Q
Group 3, Comparative Politics—Pol. S. 226Q, 320, 330, 523Q, 524 or 525
Group 4, International Politics—Pol. S. 335Q, 336, 338 or 534
Group 5, Public Policy and Administration—Pol. S. 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 majors 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. S. 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 C (six hours)—Eco. 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; Psy. 316, Industrial Psychology; or computer science.

Lower-Division Courses

>101G. Politics: Who Gets What. (3). Division B course/elective. Focuses on some of the great political ideas and applies them to modern issues. Even if there are no eternal truths, there are eternal problems. Major ideas include the rulers and the ruled, liberty versus order, the right of dissent, political obligation and issues of conscience. Also, current political issues are the subject of various sets of assumptions. The dual aims thus become the development of a sensitivity on the part of students to international problems. Students can analyze the international problems they encounter in the future.

>103G. Games Nations Play: Problems in International Relations. (3). Division B course/elective. Course's immediate and most apparent aim is to familiarize students with a number of international problems. The intention, however, is to achieve more general and 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 the students can analyze the international problems they encounter in the future.

>121Q, American Politics. (3). Division B course/elective. An analysis of the basic patterns and structure of the American political system emphasizing policies and problems of American politics.

150. Political Science Workshop. (1-3). Prerequisite: instructor's consent.


222. East Asia. (3). Cross-listed as Hist. 222, Rel. 222Q and LAS-I 222Q. A survey of basic topics on China, Korea and Japan, including history, culture, society, philosophy, religion, politics and economics. Taught by a team of instructors from several departments.

226Q. Comparative Politics. (3). Division B course/elective. An analysis of the basic patterns and structures of Western democratic and political systems, transitional systems and totalitarian systems.

233Q. Basic Ideas in Political Theory. (3). Division B course/elective. Shows the direct relationship between political philosophy and practical political structures and policies. Examines the political philosophies of six important Western philosophers at an introductory level. Studies different models of democracy in order to demonstrate the relationship between a set of basic philosophical assumptions and the political society that seems appropriate to that set of assumptions. Examines one or two major political issues to illustrate the various kinds of solutions that may be suggested by different political philosophies.

Upper-Division Courses

315. The Presidency. (3). Focuses upon the evolution of the presidential office, the recruitment of presidents and the nature of presidential power.

316Q. The Congress. (3). Division B course/elective. Focuses on the Congress with particular attention to interest articulation at both state and national levels.

317. Urban Politics. (3). An analysis of politics in urban areas, including 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.

318. Political Parties. (3). The role of political parties in the American political decision-making process at the national, state and local levels.

319. State Government. (3). Examines the role of the states in the federal system and compares state politics and their political institutions.

320. Politics of Developing Areas. (3). A survey of the political systems in Latin America, Africa, the Middle East and South and Southeastern Asia. Special attention to colonialism as a system, the effects of colonialism and patterns of emerging nations.

321. Introduction to Public Administration. (3). A general survey of the scope and nature of public administration; policy and administration; educational and social organizations and management; organization and management; budgeting and fiscal management; public personnel administration; political, judicial and other controls over the administration.

325. Women in the Political System. (3). Cross-listed as Wom. S. 325. Examines the political process of policy making using policies of interest concerning women. Explores the association of gender role expectations with existing and proposed public policies that pertain to women's lives. Prerequisite: 6 hours of social science or instructor's consent.

330. Soviet Politics and Government. (3). An in-depth look at the Soviet political system. Using the United States as a point of reference, course compares political processes in the systems of the two superpowers. Includes political ideas and politics; the 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.

335Q & 336. International Politics and Institutions. (3 & 3). 335Q: Division B course/elective. Focuses on interaction between actors in the international system. Covers nature of conflict and resolution. Either 335Q or 336, but not both, may be accepted toward a major in Political Science. Focus is on the role of international organizations in the international system. Emphasizes the United Nations. Also covers some regional organizations.

337. International Force and Intervention. (3). Examines the use of force and intervention in the international system. Covers the use of economic and military force in crisis and the nature of war. Also discusses issues considered in comparing arms levels between Soviet and Western coalitions and in transferring arms to Third World countries.

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 in Soviet foreign relations and policy aims; and execution of foreign policy in selected areas.

345. Classical Medieval Political Theory. (3). Examines 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. Trace the changes in emphasis that occurred in this tradition through the Roman Stoics and the religious philosophers of the Middle Ages. Familiarity with these early political ideas is a major contribution to understanding subsequent political philosophies.


358Q. American Political Thought. (3). Division B course/elective. Considers selected topics in the development of political ideas in the United States.

390. Special Topics in Political Science. (1-3). An analysis of selected titles in political science in a seminar setting. Content varies depending upon the instructor. Repeatable for credit.

398. Directed Readings. (1-3). For exceptional students to meet their needs and deficiencies. Repeatable for credit. Prerequisites: senior standing and departmental consent.

444. Modern Political Theory. (3). Continues the study of Western political philosophy beginning with the decisive break with the classical tradition made by Machiavelli early in the 16th century. Studies major philosophers Hobbes, Locke and Rousseau, known as philosophers of the social contract who exercised a great influence on the creation of the American political system. Also studies Marx, a political thinker who moves strongly in the direction of 20th century political philosophy. Philosophers of this period have collectively...
had a profound impact on political life in this century.

481. Cooperative Education in Political Science. (1-3). Provides practical experience to complement the student's more formal political science curriculum. Student programs must be approved by the department. Offered Cr/NC only.

Courses for Graduate/Undergraduate Credit

505. The Politics of Health. (3). Cross-listed as HAE 505. Shows how governments in the United States make decisions in the health field, describes the political forces shaping governmental policy in health and analyzes the arguments for and against an increased governmental role in health.

523Q. Government and Politics of Latin America. (3). Division B course/elective. An examination of the political institutions and processes that currently exist in the Latin American republics. Emphasizes the social, economic and psychocultural factors affecting these institutions and processes.

524. Politics of Modern China. (3). Emphasizes study of China's political system since 1949 in terms of non-Western goals and ideas of social organization. Uses themes of political integration and political development to minimize distortion or cultural bias. Emphasizes the roots of the political system, the system as it is now and the roots China is striving to realize. Some assessment about the future development of communism in China. Includes Chinese communism and the ideological heredity; 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 Proletarian Cultural Revolution.


534. Problems in Foreign Policy. (3). Examines domestic and international problems associated with U.S. foreign policy.

547. Contemporary Political Theory. (3). Introduces the radically new ideas that emerged in the last century as a result of Darwin's theory of evolution, the doctrine of historicism and the growth of modern science and explores their impact upon political thought. Although the multiplicity of philosophies makes generalization difficult, most of them draw strength from common sources. Studies philosophers such as Hans Kelsen, William Barrett, Frederick Nietzsche and John Dewey. Gives attention to the importance of these new philosophies upon political structures and issues.

552Q. Civil Liberties. (3). Division B course/elective. An analysis of the role of the appellate courts—especially of the U.S. Supreme Court—in the American political system. Emphasizes judicial review of state and federal legislation, the separation of powers, federalism, the taxing power and the commerce clause.

Courses for Graduate Students Only


587. Administrative Theory and Behavior. (3). A study of organization theory and the various approaches to the study of organization.

700. Advanced Directed Readings. (3). Repeatable for credit. Prerequisite: department consent.

701. Method and Scope of Political Science. (3). Emphasizes philosophy of science and methodology (as distinguished from method and technique) and exposes students to recent works of methodological import in the various subfields within the discipline. Prerequisite: department consent.

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 schools of thought underlying the field and identification of issues shaping the future development of the field.

750. Workshop. (2-4). Prerequisite: instructor's consent.

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 administration. Prerequisites: Econ. 202Q and a course in statistics or instructor's consent.
Psychology
The course of study 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 1); traditional human oriented areas (Group 2); and applied areas (Group 3).

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. Psy. 111Q is prerequisite for all higher number psychology courses. All BA majors are required to take Psy. 111Q, 401, 411 and 601. In addition, six hours must be taken from each of the groups listed below.

Group 1: Psy. 302, 322, 332, 342Q, 402, 502Q, 512, 522, 532, or 622
Group 2: Psy. 304Q, 324Q, 334Q, 404, 414, 514, 524, 534, or 544
Group 3: Psy. 316, 336, 386, 406, 416Q, 426, 516, 526, 536, 546, 556, or 720

Minor. The minor consists of a minimum of 15 hours selected in consultation with the student's major adviser.

Lower-Division Courses
108. Stress and Stress Management. (3). 2R; 2L. 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; complemented by stress reduction techniques. Course does not satisfy the University's social science requirement nor does it count for a psychology major.

>111Q. General Psychology. (3). Division B course/elective. An introduction to the general principles and areas of psychology. Includes learning, perceiving, thinking, behavioral development, intelligence, personality and abnormalities of behavior. Course is a prerequisite for advanced and specialized courses in psychology.

150. Workshop in Psychology. (1-4).

Upper-Division Courses
302. Psychology of Learning. (3). Explores basic principles of how organisms learn. Highlights key concepts such as reinforcement and punishment, generalization of behavior across settings and extinction of specific behaviors. Discusses important research, theoretical issues and current trends. Prerequisite: Psy. 111Q.

304Q. Social Psychology. (3). Division B course/elective. A study of how social behavior is influenced by the behavior and characteristics of others. Includes attitude formation and change, attribution, interpersonal attraction, impression formation and compliance, as well as the application of social psychological principles to an understanding of prosocial, aggressive and sexual behavior. Prerequisite: Psy. 111Q.

316. Industrial Psychology. (3). An introduction to the many roles of scientific psychology in the selection, training, evaluation and general welfare of people in the workplace. Includes employee morale, job satisfaction, leader behavior, fair employment practices and sources of worker stress. Prerequisite: Psy. 111Q.

322. Cognitive Psychology. (3). Presents a coherent picture of human memory and cognition within the framework of the information-processing approach. This approach views the individual as an active, constructive planner in remembering and organizing new and prior learned knowledge. Includes the study of attention, memory, thought, decision making and problem solving processes. Prerequisite: Psy. 111Q.

324Q. Psychology of Personality. (3). Division B course/elective. An examination of psychoanalytic, behavioral, trait and other contemporary theories of human personality. Gives consideration to major factors influencing personality, results of research in the area, ways of assessing personality and some of the methods of treating personality disorders. Presents and discusses case studies. Prerequisite: Psy. 111Q.

332. Psychology of Perception. (3). An exploration of current research and theory in perceptive and sensation. Emphasizes how organisms come to perceive and understand their environments with regard to perception of space, form, objects and events. Also gives consideration to motivation and personality factors in perception. Prerequisite: Psy. 111Q.

334Q. Developmental Psychology. (3). Division B course/elective. Descriptive survey of human development from conception to death emphasizing the interplay of environmental, genetic and cultural determinants of development. Selected topics emphasized and elaborated by demonstrations and class projects. Prerequisite: Psy. 111Q.

356. Alcohol Use and Abuse. (3). A study of the individual, social and cultural aspects of alcohol use. Investigates both nonproblem and abusive drinking; research on why people drink; prevention of problems linked to alcohol use; treatment of alcoholism and the needs of special populations. Includes investigation of combined alcohol and drug abuse as well as study of psychosocial aspects of use of drugs other than alcohol. Prerequisite: Psy. 111Q.

342Q. Psychology of Motivation. (3). Division B course/elective. Examines the psychological and biological forces leading to goal-directed acts to understand the complexity of influences upon behavior. Motivational topics include reward and punishment, stress, aggression, achievement and the role of the brain structures in influencing organized behavior. Prerequisite: Psy. 111Q.

386. Human Factors Psychology. (3). The study of how people respond to the demands of complex machines and the varied environments of workplace, home and other settings. Course introduces the tools and methods of machine, task and environment design to achieve the matching of human capabilities and the demands of machines and environments so as to enhance human performance and well being. Prerequisite: Psy. 111Q.

401. Psychological Statistics. (3). Introduces basic quantitative techniques for the description and measurement of behavior, as well as tests for making decisions regarding the compatibility of data to scientific hypotheses. Covers probability models, descriptive statistics and inferential tests. Prerequisites: Psy. 111Q and Math. 111 or 112.

402. Psychology of Consciousness. (3). Examines consciousness from two perspectives: as a psychological state ranging from comas to "peak experiences" and as a framework for knowledge. Covers research on split-brains and dissociated personalities from the second perspective. Prerequisite: Psy. 111Q.

404. Psychology of Aging. (3). Cross-listed as Geron. 404. An examination of the issues surrounding the adult aging process. Includes personality and cultural change, mental health of the elderly and the psychological issues of extending human life. Special emphasis on the strengths of the elderly and prevention of psychological problems of the elderly. Prerequisite: Psy. 111Q.

406. Introduction to Community Psychology. (3). A review of the historical, theoretical and empirical bases of community psychology and community mental health. Presents contemporary models of community psychology including the ecological and social action perspectives. Includes social support, self-help, social policy and the prevention of psychosocial problems. Prerequisite: Psy. 111Q.

411. Research Methods in Psychology. (4). 3R; 3L. Covers the philosophy of research methods, experimental design, appropriate data analysis techniques, and historical trends and developments in experimental psychology. The laboratory exposes students to representative experimental lab techniques in the major subdivisions of psychology. Actively involves all students in research project(s). Prerequisite: Psy. 401.

414. Child Psychology. (3). Covers psychological development from conception through infancy and childhood. Includes the development of language, perceptual and cognitive functioning, social-emotional attachment and socialization. Attention to practical issues of discipline and child rearing. Prerequisite: Psy. 111Q.
416Q. Psychology and Problems of Society. (3) Division B course/elective. A study of the
special role of psychological theory, research and principles applied to contemporary social
issues and problems including environmental concerns, problems in the schools, substance
abuse, nuclear proliferation, racism/sextism, child abuse, juvenile delinquency, aggression,
behavioral control, aging, technology, etc. Prerequisites: Psy. 111Q.

426. Psychology of Work. (3). Selects from standard topics of industrial psychology;
examines in greater depth the seriousness of job satisfaction problems, effects of technological
change, membership in unions, control of productive workers, facts and myths about the
working woman and other similar topics. Prerequisite: Psy. 111Q.

428. Field Work in Psychology. (3). Special projects and practicums under supervision in
public and/or private agency settings. Psychological and sociological 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. Prerequisites: Psy. 111Q and
departmental consent.

481. Cooperative Education. (1–3). Provides practical experience, 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.

Courses for Graduate/Undergraduate Credit

502Q. Comparative Psychology. (3) Division B course/elective. Compares and contrasts
psychological and ethological analyses of behavior. Stresses the evolution and development
of behavior. Includes a critique of the instinct doctrine and sociobiological interpretations
of behavior. Field trips supplement lectures. Prerequisite: one course from Group One.

508. Psychology Tutorial. (3). Selected topics in psychology. Repeatable for a maximum
of six hours' credit. Instructor's consent may be required. Check Schedule of Courses. Prerequisite:
Psy. 111Q.

512. Primatology. (3). A survey of the primates (including humans) and their behavior.
Includes 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: Psy. 111Q.

514. Psychology of Health and Illness. (3). A survey of the relationships between psychology/behavior and physical health and illness. Includes stress and coping, health habits, symptom perception, health care provider-client relationships, hospitalization and prevention. May include a self-study of life style and behavior in relation to health and illness. Prerequisite: Psy. 111Q.


522. Biological Psychology. (3). A review of the biological foundations of behavior. Includes the evolutionary basis of behavior, behavior genetics, a critical analysis of brain-behavior relationships, the role of hormones in behavior and neurochemical correlates of behavior. Prerequisite: Psy. 111Q.

524. Advanced Psychology of Personality. (3). More intensive treatment of the topics of
psychology of personality emphasizing contemporary theories, research and application of the
psychological study of personality. Prerequisite: Psy. 324Q.

foundations of tests and the interpretation of test findings. Surveys several tests representing
the areas of intelligence, personality, normal and abnormal psychology, interests, special
abilities and aptitudes to illustrate general principles of testing. Prerequisite: Psy. 401.

532. Psycholinguistics. (3). Cross-listed as Ling. 545. Survey of psychological, linguistic
and informational analyses of language. Includes the performance-competence distinction,
child development of speech, animal communication systems and the relation of language
to thought. Prerequisite: Psy. 111Q.

534. Psychology of Women. (3). Cross-listed as Wom. S. 534. Psychological assumptions,
research and theories of the roles, behavior and potential of women in contemporary society.
Prerequisite: Psy. 111Q.

536. Behavior Modification. (3). A study of the basic assumptions, principles and issues of
behavioral approach to helping persons with psychological problems. Includes demonstration
and individualized practice in general helping skills as well as individual projects in applying these skills. Prerequisites: Psy. 111Q and instructor's consent.

544. Abnormal Psychology. (3). An introductory survey of abnormalities of behavior. Examines
definitions, causes, types and classifications of abnormal behavior. Gives attention to
various theories of abnormality, research evidence and various methods of diagnosis and
treatment. Presents hypotheses regarding prevention of abnormality. Prerequisite: Psy. 324Q.

562. Psychological Assessment. (3). Prerequisite: Psy. 324Q. Placement in local human
service agencies for about eight hours a week for 14 weeks. Under supervision, students assist in the development and delivery of services at the agency site. Repeatable once. Prerequisites: Psy. 356 and instructor's consent.

566. Computer Applications to the Behavioral Sciences. (3). 2L. Introduces computer
applications to the behavioral sciences including techniques of analyzing experimental data,
statistics and computer science. Repeatable for credit.

581. Systems and Theories in Psychology. (3). Includes behaviorism, Gestalt psychology,
structuralism and others. Makes an attempt to develop the logical relations of these theories
to other as well as to common historical themes and current issues. Prerequisite: 15 hours of psychology including Psy. 411.

584. Counseling Psychology. (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. Requires consultation with and approval by appropriate advisor prior to registration. Prerequisites: nine hours in psychology and instructor's consent.

720. Aerospace Psychology. (3). Exploration of the many roles of scientific psychology 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, crew skills, stress and training, pilot workload, cockpit control and display systems and aviation safety. Prerequisites: 15 hours of psychology or instructor's consent.

756. Psychology Workshop. (1–3). Specialized instruction, using various formats in selected
topics and areas of psychology.

Courses for Graduate Students Only

810. Advanced Research Methods I. (4). 3L Part one of a two-course sequence aimed at
advanced treatment of statistical and research design issues. Statistical methods included are
analysis of variance, analysis of covariance, multiple comparisons and multiple regression.
Design issues include research planning, validity, quasi vs. experimental designs, prediction
vs. explanation and modeling. The associated lab provides basic computer skills for access to
the mainframe and some basic training in SPSS-X, SAS and BMD 32 statistical routines. Prerequisite: instructor's consent.

811. Advanced Research Methods II. (4). 3L Continuation of Psy. 852. Statistical tech-
niques emphasized are a continuation of multiple regression, structural analyses including Path Analysis and LISREL, factor analysis, canonical correlation and discriminant analysis. Includes advanced design issues. Students carry out research projects as part of the course requirements. The associated lab provides additional computer skills for access to the mainframe and some basic training in SPSS-X, SAS and BIOMED statistical routines. Prerequisites: Psy. 810 and instructor's consent.

812. Biological Foundations of Behavior. (3). Reviews various biological influences on behavior and evolution genetics, biochemistry and physiology. A consideration of the development and anatomy of the nervous system forms the core of the course. The position developed is that behavior depends on biological as well as environmental factors. Prerequisite: instructor's consent.

813. Cognitive Foundations of Behavior. (3). Focuses on human beings as information processing systems. This approach views the individual as an active, constructive and planning person in remembering and organizing new and prior learned knowledge. Includes the study of memory, language, speech, thought, decision making and problem solving processes. Prerequisite: instructor's consent.

814. Personality and Individual Differences. (3). Provides an advanced understanding of the theories and measurement of personality and individual differences. Also discusses the utilization of this information to an applied psychological setting. Prerequisite: instructor's consent.

815. Social and Developmental Foundations of Behavior. (3). Examines basic assumptions, theories and methods in social and developmental psychology. Describes and analyzes research concerning the functional significance of social relationships for development and the embeddedness of behavior in social, ecological and cultural contexts. Includes examination of substantive issues such as person perception and social cognition, affiliation and attachment, socialization and interpersonal interaction, social support and social roles and contexts over the life span. Considers applications of theories and research in social-development psychology to the solution of individual and social problems. Prerequisite: instructor's consent.

820. Seminar in Human Factors. (3). Focuses on a sample of contemporary human factors problems through review of current literature and theory. Content changes as new problems attain prominence internationally but a typical sample might be human factors in the aging population; human factors in airport security and baggage marking; and human factors in third-world industrialization. Prerequisites: completion of 9 hours of Foundations of Psychology courses; for doctoral students from other disciplines, instructor's consent after an interview.

830. Seminar in Community-Clinical Psychology I. (3). Introduces basic historical, conceptual, research, methodological and ethical issues in community-clinical psychology. Examines the responsibilities and roles of psychologists in the promotion of human functioning. Reviews models and determinants of human behavior from individual, developmental and ecological/contextual perspectives. Details the reciprocal relationship between research and practical applications of psychological knowledge and the application of that knowledge to human psychosocial problems. Prerequisite: instructor's consent.

831. Seminar in Community-Clinical Psychology II. (3). Introduces methods of assessment and intervention used to promote human functioning in the context of primary and secondary prevention and clinical treatment of human psychosocial problems. Describes and integrates theories and methods relevant to the assessment of persons, environments, agencies and communities. Details theories and methods of intervention, including psychotherapy, consultation, social action and organizational development. Students apply these theories and methods to selected psychosocial problems. Prerequisite: Psy. 830.

840. Seminar in Environmental Psychology (3). Explores historical, theoretical and empirical bases of environmental psychology. Presents contemporary models of environmental psychology including the ecological, social, community and human factors perspectives along with a historical review of the field. Focuses on human behavior-environment, person-environment fit, social impact assessment, social policy and the prevention of psychosocial problems through environmental intervention. Prerequisite: Psy. 815.

841. Seminar in Motivation and Emotion. (3). Intensive study of theory and research in motivational and emotional processes. Prerequisite: instructor's consent.

842. Seminar in Psychology of Learning. (3). Intensive study of theory and research in learning processes. Includes 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: Psy. 302 and instructor's consent.

843. 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 common issues in psychotherapy, such as process and outcome, and client and therapist variables in the therapeutic process. Prerequisites: Psy. 111Q and instructor's consent.


910. Doctoral Dissertation. (1-3). Graded S/U only. Repeatable for credit. Prerequisite: admission to candidacy and instructor's consent.

911. Graduate Research. (1-3). Individual research. Graded S/U only. Prerequisites: advisor's consent and graduate standing.

920. Internship in Human Factors Psychology. (1-3). Repeatable up to 6 hours. A planned placement experience in an off-campus setting, designed to give the doctoral human factors psychology student an opportunity to apply the principles of Human Factors Psychology, Prerequisite: advisor's consent.

921. Psychological Principles of Human Factors. (3). Focuses on the interaction of people with machines and technology in a variety of environments. Provides depth to the topics surveyed in Psy. 386 and serves as a means of integrating cognitive, biological, and perceptual psychology in applied settings. Prerequisite: completion of undergraduate course in cognitive psychology or Psy. 813; and instructor's consent after interview for doctoral students from other disciplines.

922. Seminar in Software Psychology. (3). Intensive study of principles and methods of Engineering Psychology (human factors) applies to the design and evaluation of computer software. Topics include research methods, programming as human performance, programming as an interface evaluation, organizing the programming team, interactive interface issues, and the design of interactive computer systems. Prerequisite: instructor's consent.

930. Advanced Abnormal Psychology. (3). An overview of major categories of abnormal behavior consistent with the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders. Review descriptive features of each diagnostic category and information on the clinical course and etiology. Examine differing definitions of "abnormal behavior" and paradigmatic approaches to the study of psychopathology. Prerequisite: instructor's consent.

931. Applied Research Methods in Community Settings. (3). An examination of research methods which are used in community settings to develop and evaluate programs. Focuses on research design and the discussion of different data collection strategies used to assess community needs. A variety of topics related to program evaluation are explored including research design issues, developing criteria of merit, and the politicization of program evaluation. Prerequisite: instructor's consent.

932. Internship in Community-Clinical Psychology. (1-3). Graded S/U only. A planned placement experience in an off-campus setting, designed to give the doctoral community-clinical psychology student an opportunity to further develop and apply skills in community-clinical psychology. Repeatable for a maximum of nine credit hours. Prerequisite: advisor's consent.

933. Practicum in Clinical Psychology. (3). Gives the student further experience in developing clinical skills. Students are supervised in their clinical work with individual clients seen through the department clinic, and/or other appropriate sites. Graded S/U only. Prerequisites: Psy. 935 and Psy. 936.

934. Practicum in Community Psychology. (3).
Theory (SDT) is developed and compared with threshold theory. Demonstrates procedures for assessing both detection and discrimination under both SDT and threshold theory. Information measurement and utility theory is developed and applied to the transmission and coding of information and to decision making respectively. Examines measures of work reliability and well-being. Prerequisite: instructor's consent.

942. Seminar in Behavioral Development. (3) A critical analysis of the concept of development and theories of behavioral development. Begins with a review of the concept of integrative levels and proceeds to a discussion of the concept of evolution and development in psychology. Examines the concept of development from psychological, biological, and anthropological perspectives. Also critically evaluates various theories of human development. Prerequisite: instructor's consent.

943. Seminar in Comparative Psychology. (3) Intensive study of psychological and ethological research and theories of behavior. Oriented around the evolution and development of behavior. Includes a review of the concept of integrative levels in psychology. Prerequisites: Psy 302Q and instructor's consent.

944. Seminar in Consultation. (3) Examines theories and techniques of psychological consultation as applied to individuals, organizations, and systems. Prerequisite: instructor's consent.

945. 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.

946. Seminar in Motor and Sensory Processes. (3) Focuses on the interface between human sensory and motor systems. Covers the sensory, motor, cognitive, and affective processes as related to human factors psychology. After a review of the anatomy and physiology of sensory-motor systems, emphasis will be placed on contemporary research and literature regarding the interface of sensory-motor processes. Prerequisite: instructor's consent.

947. Seminar in Perception. (3) Intensive study in theory and research in perceptual processes. Prerequisites: Psy 332, or equivalent, and instructor's consent.

Public Administration
See Hugo Wall School of Urban and Public Affairs

Religion
The Department of Religion offers students an opportunity to inform themselves about the major religious traditions of the world and to think critically and constructively about religion as a dimension of human experience and a mode of human expression. 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 and a minor in religion is possible.

Students contemplating an emphasis or minor in religion should discuss their academic program with a member of the department. A Bachelor of Arts degree field major provides an additional option. 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


120G. The Biblical Heritage. (3). Division A course/prerequisite. The collection of books known as the Bible has been central to a number of religious traditions for more than 2,000 years. Course examines the central religious ideas and motifs of Biblical literature and proceeds to study how the Jewish and Christian traditions have interpreted these ideas and mold them in various forms and combinations. Course is historical and analytic not confessional; culminates with a survey of the roles played by the Bible in contemporary American culture.

125. World of the Bible. (3). Seeks to understand the Bible within its geographical, historical, and cultural contexts, the polytheistic world of the ancient Near Eastern and Mediterranean civilizations of Babylonia, Assyria, Egypt, Persia, Greece and Rome from the period of the patriarchs to the rise of Christianity. Special attention to similarities and differences between Biblical ideology and views current in neighboring religious traditions.

130Q. Introduction to Religion. (3). Division A course/prerequisite. An introduction to the major religious traditions and problems, both Eastern and Western, with some emphasis on the methods used in the study of religion.

131G. Traditional Religion and the Modern World. (3). Division A course/prerequisite. A study of some of the traditional religious systems (Buddhist Hindu, Confucian, Taoist, Judaic and Christian) and of several of the important modern criticisms of religion with a view to confronting the problem of whether traditional religion can be significant in the modern world.

150. Workshop in Religion. (2-4).

210. Current Religious Issues. (3). A critical study of contemporary issues in the West with
some attention to non-Western religions. Considers the relationship of religion to such topics as race, war, secularism, population explosion and politics.

215. The Meaning of Death. (3). An exploration of the images, interpretations and practices that constitute the response to death in major religious traditions.

221. Judaism. (3). The history and central teachings of traditional Judaism and its modern varieties (Reform, Orthodox, Conservative, etc.). Focuses on Jewish customs and practices as well as Jewish religious thought.

222Q. East Asia. (3). Cross-listed as LAS-I 222Q. Hist. 222, Pol. S. 222Q. Division A course/elective. A survey of basic topics on China, Korea and Japan, including history, culture, society, philosophy, religion, politics and economics. Taught by a team of instructors from several departments.

223. Hinduism and Buddhism. (3). Hinduism and Buddhism are closely related, both growing out of a unique critical 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 of its consequences has been the direct investigation of consciousness by the means of meditation techniques, a type of religiosity for which India has become famous. Course investigates the formation of that world view and explores the diverse ways in which it has been elaborated and interpreted as a way of life and path of spiritual cultivation in the Hindu and Buddhist tradition.

224Q. Christianity. (3). Division A course/elective. An overview of Christianity from New Testament times to the present stressing historical developments in religious life and theology. Includes Catholic, Protestant and Orthodox Christianity; explores contemporary trends and problems.

225. Jesus. (3). There have been varied responses to and multiple interpretations of the life and teaching of Jesus. Course examines the development and function of traditions about Jesus in Biblical, extrabiblical and more recent, popular sources.

240. Religion in America. (3). A survey of the beliefs, practices and issues current in major American religious bodies with some attention to major religious denominations such as the Black Church, Christian Science and the Latter Day Saints.

245. Islam. (3). The religion in its geographical, social, political and cultural context, both Arab and non-Arab.

250Q. Eastern Religions. (3). Division A course/elective. An introduction to the religions of India and China. Studies and contrasts Hinduism, Buddhism, Jainism, Taoism and Confucianism. Tries to understand the religious life and texts of these ancient and dynamic cultures from the vantage point of the believers themselves.

255. Zen and Taoism. (3). Zen is a form of Buddhism that emphasizes spontaneity and the ultimate of the here and now, employing startling nonintellectualist 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 ideas, values and orientations found in China’s ancient Taoist tradition. The Taoist view of the universe as a harmonious organic unity in which humans fittingly participate by selfless spontaneity rather than calculated intervention is radicalized in Zen; at the same time, it is the Taoist sensibility that leads to the Zen departure from more traditional Buddhist approaches to enlightenment. Course traces these developments, beginning with a consideration of Taoism and then tracing the transformation of Buddhism in China to its culmination in the unique methods and teachings of Zen.

260Q. Psychic Phenomena. (3). Spiritual traditions have everywhere and at most times appeared in a triple world: natural, divine and intermediate. The intermediate world of the psychic, the occult, the astral, is the subject of philosophical/psychological investigation. Includes psychic out-of-body states, ESP, clairvoyance, telepathy, etheric bodies in Hinduism and the Tibetan Buddhism. Lecture, discussion and student reports. Visits by persons with expertise in psychic reading, out-of-body states, Kirlian photography and ESP.

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.

281. Cooperative Education. (1-4). Offered Cr/NCR only.

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, law, covenant, historiography and wisdom, or a genre of biblical literature, such as poetry or narrative.


325. Protestantism. (3). Traces the development of the Protestant Christian tradition and analyzes its distinctive themes. After a historical survey of this family of Christianity, course explores distinctively Protestant themes, such as justification by faith, the primacy of individual conscience and the primacy of scripture, integrating them with current phenomena.

327. Magic, Witchcraft and Religion. (3). Cross-listed as Anthr. 327. An examination of various concepts concerning the realm of the supernatural as held by primitive people. Course relates such religious and magical beliefs — and the resultant practices — to the larger patterns of cultural context.

333Q. Women and Religion. (3). Cross-listed as Wom. S. 333. Division A course/elective. An examination of past and present images and roles of women in religious traditions. Looks at women in the Bible and religious history as well as contemporary criticisms of patriarchal religion and resources for change.

346. Philosophy of Religion. (3). Cross-listed as Phil. 346Q.

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. Concludes with an investigation into the relationship between Zionist ideals and the modern state of Israel.

410Q. Comparative Religion. (3). Division A course/elective. 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 human’s religious life as it has expressed itself throughout history.

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.

421. Sociology of Religion. (3).

442. Greek and Roman Religion. (3). The transformations in the religions of the Mediterranean world and the Near East between the first conquests of Alexander the Great and the triumph of Christianity under Constantine. 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, course deals with the particular religious synthesis lying at the basis of Western civilization: the fusion of Jewish, Greek and Roman patterns of thought in the Christian world of antiquity.


480. Special Studies. (3). A concentrated study of a theologian, a theorist of religion or a religious issue announced by the instructor when course is scheduled. Repeatable for credit. Prerequisite: instructor’s consent.

481. Cooperative Education. (1-4). Offered Cr/NCR only.

490. Independent Work. (1-3). Designed for the student 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.

Courses for Graduate/Undergraduate Credit

750. Workshop in Religion. (2-4).

790. Independent Study. (1-3). For the student who is capable of doing graduate work in a
specialized area of the study of religion not formally offered by the department. Repeatable for credit. Prerequisite: departmental consent.

Portuguese, Russian
See Modern and Classical Languages and Literatures

Spanish
See Modern and Classical Languages and Literatures

Social Work
See Hugo Wall School of Urban and Public Affairs

Sociology
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. Students must take at least nine hours in residence for a major and six hours in residence for a minor.

Major. A major in sociology consists of at least 30 hours, including:
Soc. 111Q, Introduction to Sociology (3 hours)
Soc. 312, Introduction to Social Research (3 hours)
Soc. 501, Sociological Statistics (3 hours)
Soc. 512, Measurement and Analysis (3 hours)
Soc. 545, Sociological Theory (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 the sociology major. No more than six hours of such courses may be included.

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 courses numbered 300 and above.

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. 312, Introduction to Social Research (3 hours)
Soc. 501, Sociological Statistics (3 hours)
Soc. 512, Measurement and Analysis (3 hours)
Soc. 545, Sociological Theory (3 hours)

Option Courses (12 hours)
Soc. 220Q, Contemporary Social Problems, or Soc. 322, Deviant Behavior (3 hours)
Soc. 315Q, Courtship and Marriage, or Sociology Soc. 515, Sociology of the Family (3 hours)
Soc. 316, The American Male, or Soc. 516, Sociology of Sex Roles (3 hours)
Soc. 330Q, Social Inequality
Soc. 513, Sociology of Aging, or Geron. 520, Family and Aging (3 hours)

Any other courses in sociology may be counted toward the emphasis with advisor's consent.

Lower-Division Courses
100Q. Sociology and Everyday Life. (3). Division B course/elective. An introduction to sociology. (2 hours)

Sociology and Everyday Life. (3). Division B course/elective. Relates current sociological thought to everyday life experiences. (3 hours)

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. Covers a wide range of topics: 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 fads and fashions. Course is flexible to allow students to explore, in depth, their own unique life experiences within a sociological framework.

>111Q. Introduction to Sociology. (3). Division B course/elective. An introduction to basic concepts, propositions and theoretical approaches of sociology, including elementary methods of studying social phenomena. The basic course for students who intend to take additional courses in sociology.


Upper-Division Courses
301, Computers and Society. (3). 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, course focuses upon the work setting and the family. Includes new social roles (programmer, hacker, the cyberphobic the cyberphobic), the computer as a family member; the computer as a power vendor in the work setting: computer deviance, and the computer and the disadvantaged. Utilizes a cross-cultural and historical perspective where appropriate.

312. Introduction to Social Research. (3). A survey of the many research techniques found in sociology and related fields. Stresses conceptual understanding of all phases of the research process. Prerequisite: Soc. 111Q.

315Q. Courtship and Marriage. (3). Division B course/elective. Emphasizes courtship and marriage processes as they exist in the United States today. Aids students in the acquisition of a sociological perspective of the courtship process through an examination of social class, sex roles, dating and human sexuality. Emphasizes marital interaction, the family, dissolution, and the future of marriage in the latter half of the course.

>316. The American Male. (3). Cross-listed as Wom. S. 316. Examines the male role in America from a variety of sociological perspectives and within particular settings, for example, work, family and leisure. Other relevant topics: socialization, intimacy and adult developmental stages and crises. Discusses changing male roles produced by strains and conflicts in contemporary America.


322. Deviant Behavior. (3). The structure, dynamics, and treatment of deviant behavior and the organization of social events facing them every day. Covers a wide range of topics: 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 fads and fashions. Course is flexible to allow students to explore, in depth, their own unique life experiences within a sociological framework.

>330Q. Social Inequality. (3). Division B course/elective. An analysis of contemporary American social problems.

334. Sociology of the Community. (3). An exploration of a basic unit of social organization, the community. Emphasizes organizational and interpersonal relationships within the community and changes in those relation-
ships, as well as the community’s place within society. Prerequisite: Soc. 111Q.

335. Sociology of Occupations and Organizations. (3). The work group as a social group, social organization of the workplace and social factors affecting the worker. Uses a comparative approach to the study of occupations and work settings and highlights worker troubles and tensions. Prerequisite: Soc. 111Q.

338Q. Health and Lifestyle. (3). Division B.

335. Sociology of Occupations and Organizations. (3). Sociology of occupations and organization of the workplace and social factors affecting the worker. Uses a comparative approach to the study of occupations and work settings and highlights worker troubles and tensions. Prerequisite: Soc. 111Q.

350. Social Interaction. (3). Studies the effect groups have on individuals. Primary focus on the symbolic interactionist perspective in sociology. The goal is for students to understand how social interaction influences their daily activities. Includes the meaning and importance of the symbol; the nature and development of self; social roles and their influence on individuals and the social construction of society. Prerequisite: Soc. 111Q.

481. Cooperative Education in Sociology. (1-4). Provides the student with practical experience under academic supervision, that complement the student’s academic program. Consultation with and approval by an appropriate faculty sponsor is necessary. Cr/NCR only. Prerequisite: Instructor’s consent.

Courses for Graduate/Undergraduate Credit

501. Sociological Statistics. (3). Generally offered fall semester only. Application of descriptive and inferential statistics to sociological problems. Includes measures of central tendency, dispersion and association, simple linear regression, hypothesis testing and analysis of variance. Prerequisites: Soc. 111Q, Soc. 212 or 312, Math. 111 or 331Q or equivalent.

512. Measurement and Analysis. (3). Generally offered in the spring only. Develops knowledge of and understanding of some of the fundamental skills and conceptual tools used in conducting sociological research, including both qualitative and quantitative approaches, through performing selected techniques: problem selection, conceptualization, hypothesis formulation, data collection, analysis procedures, measurement, collection of qualitative data, computer skills, quantitative and qualitative analysis, and presentation of results. Prerequisites: Soc. 111, Soc. 212 or 312, Soc. 501.

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. 111Q.

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. 111Q.

516. Sociology of Sex Roles. (3). Cross-listed as Wom. 516. Analyzes the institutional sources of man’s and woman’s roles, the source of changes in these roles, the consequent ambiguities and conflicts. Prerequisite: Soc. 111Q.

517. Intimate Relations. (3). Examines the social dimensions of intimacy including an analysis of intimacy in different types of relationships, i.e., romantic, friendship, marriage. Reviews theory and research in the area with a special focus on the place of intimacy in social interaction. Prerequisite: Soc. 111Q.

520. Family and Aging. (3). Cross-listed as Geron. 520. An analysis of the families and family systems of older people. Special emphasis on demographic and historical changes, widowhood, caregiving and intergenerational relationships as these relate to the family life of older people. Prerequisites: Geron. 100 or junior standing.

523. Sociology of Law. (3). A consideration of the impact of law on society, the role of law in effecting social change, various methods of dispute resolution, and recent research on judicial, legislative, and administrative processes, all with the aim of comparing and evaluating strengths and weaknesses of legal systems, with partial, but not exclusive, emphasis on those societies utilizing the common law. Prerequisite: Soc. 111Q.

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. Includes an analysis of consequences for social change. Prerequisite. Soc. 111Q.

534. Urban Sociology. (3). Urban population organization and institutions and programs of city planning. Prerequisite: Soc. 111Q.

537. The Social Consequences of Disability. (3). Cross-listed as Geron. 537. An eclectic survey of the social aspects of disability showing the impact of social values, institutions and policies upon adults with disabilities. Appropriate for both students of sociology and the service professions. Prerequisite: Soc. 111Q.

538. Medical Sociology. (3). An analysis of social and cultural factors related to physical and mental illness. Also includes the dynamics of communication and role relationships among patients and medical personnel and social research and theory relevant to the health professions. Prerequisite: Soc. 111Q.

539. Juvenile Delinquency. (3). The factors related to juvenile delinquency and the measures of treatment and prevention. Prerequisite: Soc. 111Q.

540. Criminology. (3). The extent and nature of criminal behavior and societal reactions to it. Prerequisite: Soc. 111Q.

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.

548. Sociological Theory. (3). A comprehensive survey of sociological theory, spanning both classical and contemporary theories relevant to the development of sociology. Prerequisites: 9 hours of sociology.

598. Internship. (1-6). Supervises persons involved in internships or placements in the community where credit can be given. Prerequisite: departmental consent.

600. Selected Topics in Sociology. (3). Study in a specialized area of sociology emphasizing student research projects. Includes deviant behavior, political sociology, the family and others. Repeatable for a maximum of six hours credit. Prerequisites: Soc. 111Q, Instructor's consent and substantive area course.

651. Directed Research. (3). Gives 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. 512 or equivalent and instructor’s consent.

670. Independent Reading. (1-3). For the advanced student capable of doing independent work in an area of special interest. Prerequisites: 15 hours of sociology and instructor’s consent.

750. Sociology Workshop. (1-3). Provides specialized instruction using a variable format, in a sociologically relevant subject.

781. Cooperative Education in Sociology. (1-4). Provides practical experience, under academic supervision, that complements the student’s academic program. Consultation with and approval by an appropriate faculty advisor is necessary. Graded Cr/NCR only.

*Prerequisite may be waived with departmental consent.

Courses for Graduate Students Only

800. Research Methods in Sociology. (3). The application of research methods to sociological data. Includes research design sampling, data collection techniques, computer-based analysis of data, scaling and report writing. Students design their own research projects. Prerequisites: Soc. 512 or equivalent and instructor’s consent.

815. Seminar on the Family. (3). Review of recent research on the family and the theoretical implication thereof. Prerequisite: Soc. 515 or departmental consent.

820. Seminar in Social Movements. (3). Analysis of the elements in social movements as factors in social and cultural change. Prerequisite: departmental consent.

822. Seminar in Deviant Behavior. (3). In-depth examination of recent theory, methods
Women's Studies

The Center for Women's Studies is a resource and research center for scholarship concerning women. The center offers courses and administers the major in women's studies, a discipline which presents an analysis of gender in society through the use of a variety of approaches, including feminist theory. Students investigate such areas as changing gender role expectations, American and cross-cultural social concerns, and the professional and domestic contributions of women to the culture, especially concerning the role of women in the arts and sciences. Women's studies may also be pursued as a part of a dual major or as a minor by students whose intellectual or vocational interests are best served by a focus on women's studies in conjunction with another academic field.

Major. Within the major in women's studies, students may focus on either humanities or social science women's studies courses, supplementing each track with interdisciplinary courses that apply to either focus. The major requires a minimum of 30 hours of course work with no more than three hours in courses numbered 140 to 149. Other 100-level courses and workshops may not be counted for the major.

In addition to women's studies courses, appropriate cross-listed courses for the major may be selected from such fields as philosophy, sociology, social work, history, English, anthropology, religion, minority studies, psychology, communication, political science, and administration of justice. Students considering the major in women's studies should be advised by a women's studies faculty member regarding their academic programs, their vocational goals and the selection of a humanities or social science track in the women's studies major.

To pursue the Humanities focus, the following combinations of courses are possible:

12 hours of required courses, Wom. S. 287Q, 387Q, 587 and 635

9 hours of Humanities women's studies courses (group 2 below) or combination of Humanities and Interdisciplinary courses (group 1 below)

3 hours of Social Science women's studies courses (group 3 below)

6 hours of Humanities courses outside women's studies curriculum, with departmental adviser's approval.

To pursue the Social Science focus, the following combinations of courses are possible:

12 hours of required courses, Wom. S. 287Q, 387Q, 587 and 635

9 hours of Social Science women's studies courses (group 3 below) or a combination of Social Science and Interdisciplinary courses (group 1 below)

3 hours of Humanities women's studies courses (group 2 below)

6 hours of Social Science courses outside women's studies curriculum, with departmental adviser's approval.

Group 1: Interdisciplinary women's studies courses:
Wom. S. 380K, 287Q, 387Q, 390Q, 391, 481, 570, 580, 587, 635

Group 2: Humanities women's studies courses:

Group 3: Social Science women's studies courses:
Wom. S. 141, 142, 240, 316, 340, 342, 345, 3800, 380L, 515, 533, 534, 541, 542, 543

Minor. The minor in women's studies consists of a minimum of 15 hours of women's studies courses, including Wom. S. 287Q and 387Q. Restrictions on 100-level courses in the major (see above) also apply to the minor.

Lower-Division Courses

140. Journal Writing. (1). Workshop; acquaints students with the concept and practice of journal writing. Readings deal with specific themes (work, family, relationships etc.) and students are required to keep a daily journal. Course provides an intense journal writing experience for those enrolled and encourages students to continue the practice on their own. Graded S/U.

141. Women's Sexuality. (1). Presents information on women's sexuality from physiological, psychological and socio-cultural perspectives. This integrated view focuses on women's body images and perceptions of self as sexual beings, as well as on socialization and gender-role expectations, choices of sexual behavior, sexual dysfunction and communications in sexual relationships.

142. Domestic Violence. (1). Deals with the roots of domestic violence embedded in family roles, legal systems, religious beliefs and the psychology of women, children and men. Also covers the consequences and prevention of family abuse. Includes discussion of literature and films.

150. Workshops (1-2). Topics vary by semester. Past topics have included assertion training (introductory and advanced) and rape information and prevention.

150C. Assertion Training for Women. (1). Workshop teaches women to develop assertion skills. Considers some of the changing roles and values of women in our society today and how these create a need for women to be assertive in their professional and personal choices. Examines barriers that exist to assertive behavior and ways to overcome them.

150J. Rape Information and Prevention. (1). Workshop; explores the cultural myths and stereotypes about rape, the legal system, methods of self-protection, community resources providing help for victims and other related issues. Primary focus on prevention of rape itself.

150M. Advanced Assertion Training. (1). For students who have taken Wom. S. 150C. Applies assertion principles and behaviors to
specific topics such as employment, male-female relations, sexuality, parent-child relations and organized group activity. Prerequisite: Wom. S. 150C.

180. Special Topics. (1-2). Topics vary by semester.

189G. The American Woman. (3). Division A course/elective. Examines ways our mainstream society "defines" the American woman through cultural images presented in a wide variety of popular media. In comparing these cultural definitions to the complex realities of women's experiences in America, class introduces many of the basic approaches used in the field of women's studies. Cross-listed as Min. S. 240Q.

187Q. Women in Society: Social Issues. (3). Division A course/elective. Examines women's efforts to claim their identity from historical, legal and social perspectives. Includes 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. Cross-listed as Min. S. 240Q.

Upper-Division Courses

316. The American Male. (3). Cross-listed as Soc. 316.

325. Women in the Political System. (3). Cross-listed as Pol. S. 325. Examines the political process of policy making, using policies of current interest concerning women. Examines the association of societal gender role expectations with existing and proposed public policies that pertain to women's lives. Prerequisite: 6 hours of social science or instructor's consent.

330. Women's Personal Narratives. (3). Cross-listed as Eng. 336. Explores the literary genre of the journal as practiced by both historical and modern women. Examines works by both well-known diarists and little-known notebook keepers. In-class writing and off-class assignments; students are encouraged to do daily work in a journal of their own. Prerequisites: Eng. 101 and 102.

331. Women's Biographies and Autobiographies. (3). Examines women's lives as constructed in the literary genre of biographical writing. Because women's lives have been lived in the private rather than the public sphere, the importance of their lives has often been attributed to their domestic accomplishments, personal influence and moral character. Reading biographies of ordinary and extraordinary women in a historical framework reveals ways in which the expression of power has been transformed by social change. Prerequisites: Eng. 101, 102 and one course in literature.

332. Goddesses in Myth. (3). Traces the development of the characteristics, powers and ideas about classical Greek and Roman as well as ancient Northern European goddesses from a pre-historic, world-wide worship of female deities. Examines the female dominated cultures and religions of the paleolithic and neolithic and then follows the transition from this ancient worship to the classical and Northern European conception of goddesses.

333. Women and Religion. (3). Cross-listed as Rel. 333Q.

338. Philosophy of Feminism. (3). Cross-listed as Phil. 338.


342. Women in Management. (3). Considers women in all phases of business with an in-depth examination of women in management. Includes sexual discrimination, sexual harassment, career development, dual career relationships and women in international management. The primary aim is to promote awareness on the part of both men and women of the role that women now play in business and the professions and their future potential in those institutions.

345. Women and Dependencies. (3). Provides information about women's dependencies and their relationship to constructions of gender. Examines dependencies on substances and processes (alcohol, street and prescription drugs, eating disorders and dysfunctional relationships) in their social and personal context. Examines theories of treatment and recovery in relation to feminist theory and women's roles in co-dependency.

361. Women and Work. (3). Examines the image and reality of women's employment from minimum wage work to corporate board rooms, as well as women's unpaid work. It explores the impact of cultural values, societal arrangements, and public policy on occupations, wages, and family life.

380. Special Topics. (1-3). Focuses on intermediate topics of interest to women's studies.

380K. Women and Peace. (3). Explores many facets of women's strategies for interpersonal and political peacemaking. Also explores women's pacifist and patriotic strategies, including service, resistance and direct actions.

387Q. Women in Society: Cultural Images. (3). Division A course/elective. Examines the roots of ideas about women in our society and women's responses to those ideas as they have attempted to define themselves. Emphasizes cultural images of women in literature, art, myth, philosophy, religion, psychology, education and politics. Also considers women in other cultures and other times and contemporary women's visions of an alternative future.

390Q. Motherhood: Myths and Realities. (3). Division A course/elective. Examines the idea and practice of motherhood from religious, literary, economic, political and historical perspectives. Also defines the motherhood role in light of contemporary feminist thought.

391. Women's Global Issues. (3). Explores women's issues from a global perspective in relation to policies approved by the International Women's Decade conferences of the United Nations. Emphasizes understanding the impact of nationalism, race, class and cultural values in creating obstacles to women's full participation in society. Explores strategies for achieving full human rights for women. Prerequisites: one course in women's studies and one course in history or political science.

481. Cooperative Education. (1-4). Provides a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Offered Cr/NcR only.

499B. Women in American Film. (3). Cross-listed as Anth. 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.

Courses for Graduate/Undergraduate Credit

511. Women in Early America, 1600-1830. (3). Traces women's contributions and experiences in building the United States, from 1600 to the 1830s. Both conventional and newly developed methodologies in women's history research are included.

512. Women and Reform in America, 1830-Present. (3). Examines the history of women in the United States from 1830 to the present. Focuses especially on women's involvement in various social reform activities, efforts which eventually led to work toward equal rights and improved conditions for women.


521. Women's Traditional Arts. (3). Surveys various art forms which are usually identified as the creative work of women. Using such examples as quilts or other textile arts, students focus not only on the aesthetics of these traditional forms, but also on their historic and social value to the culture.

522. Contemporary Women's Art. (3). Examines art by women in the contemporary world. Special attention to the impact of the women's movement on the creative energies and on the career directions and opportunities of these women in the arts.

530. The American Woman in History. (3). Cross-listed as Hist. 530.

533. Women and the Law. (3). Introduces 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, education and credit; welfare and criminal justice. Also considers women in the field of law, such as lawyers and legislators.


535. Literary Images of Women: Diverse Voices. (3). Cross-listed as Eng. 535. Explores literature written in English by women of diverse ethnic, racial, class and other backgrounds as...
well as of varying sexual orientations, ages and degrees of physical ability. Analyzes materials as literary works and as expressions of women’s differences from one another. Works are selected based on their specific attention to the question of gender as it intersects with other elements of culture. Prerequisite: Engl. 101, 102, and one course in literature.

536Q. Writing by Women. (3). Cross-listed as Engl. 536. Division A course/elective. Explores various themes in critical approaches to literature composed by women writers, especially those whose works have been underrepresented in the literary canon. Genres and time periods covered, critical theories explored and specific authors studied vary in different semesters.

537. Contemporary Women’s Drama. (3). Cross-listed as Engl. 537. Examines contemporary plays by and about women to discover and explore the insights of the various playwrights into the lives and roles of women. Writers considered vary. In addition to reading and analyzing plays, students write plays of their own. Prerequisites: Engl. 101 and 102 and 3 hours of English literature.

541. Women and Poverty. (3). Cross-listed as Soc. Wk. 541. Addresses the problem of poverty among women in the U.S. today and examines existing and proposed public policies designed to alleviate the problem. Explores theoretical models of poverty policy analysis and the role of values in their formulation and implementation. Discusses issues of age, race and family, special attention to poverty among women in Kansas. Prerequisites: 6 hours of social science preferably in women’s studies, including Wom. S. 388Q, or instructor’s consent.

542. Women in Other Cultures. (3). Cross-listed as Anthr. 542.

543. Women and Health. (3). Cross-listed as Nurs. 543. 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. Examines self-care practices of women and studies ways to promote positive health practices. Open to non-nursing majors.

570. Directed Readings. (1-3). For students who wish to pursue special reading or research projects not covered in course work. Prerequisite: instructor’s consent.

580. Special Topics. (1-3). Focuses on advanced topics of interest to women’s studies.

587. Theories of Feminism. (3). Because feminism is not a single ideological stance or perspective, course examines a variety of ideas underlying feminist cultural critiques and visions for social change. Discusses the contribution of women’s studies to various academic disciplines. Prerequisites: Wom. S. 387Q and 388G, or 6 hours of women’s studies courses, or instructor’s consent.

635. Leadership Techniques for Women. (3). Cross-listed as Comm. 635. Provides the woman student experience in decision making and improves skills in leadership through role playing and exercise in group dynamics.

Courses for Graduate Students Only

870. Directed Readings. (2-3). For graduate students to pursue research in areas not normally covered in course work. Repeatable for credit with departmental consent. Prerequisite: instructor’s consent.

880. Seminar in Women’s Studies. (3). Intensive study of selected women’s studies topics. Seminar discussion, reports and research project. Previous topics include Advanced Theories of Feminism and Contemporary Women’s Fiction. Repeatable for credit with departmental consent. Prerequisite: instructor’s consent.
University Faculty—Fall, 1993

Note: This listing reflects the faculty at Wichita State University as of October 1, 1993.


Ackerman, Andrew F., Professor, Mathematics and Statistics (1987). BS, Union College, 1965; PhD, Boston University, 1972.

Ackerman, Paul D., Assistant Professor and Assistant Chairperson, Psychology (1968). BA, University of Kansas, 1964; MA, 1966; PhD, 1968.


Alagic, Suad, Professor and Chairperson, Computer Science (1993). BS, University of Sarajevo, 1970; MS, University of Massachusetts, 1972; PhD, 1974.

Alexander, David R., Associate Professor and Chairperson, Physics and Executive Director, Lake Afton Public Observatory (1971). BS, Kansas State University, 1967; AM, Indiana University 1968; PhD, 1971.

Allen, Anneke S., Associate Professor, Chemistry (1964). Candidate Rykuniversiteit Groningen Netherlands, 1952; PhD, Tulane University, 1955.

Alley, Robert D., Professor, Curriculum and Instruction (1967). BS, Iowa State University, 1957; ME, University of Montana, 1960; EdD, Arizona State University, 1967.


Anderson, Peggy J., Assistant Professor, Curriculum and Instruction (1993). BS, Emporia State University, 1967; MA, University of Kansas, 1979; PhD, Wichita State University, 1983.


Armstrong, Richard N., Assistant Professor, Elliott School of Communication (1987). BA, Southern Utah State College, 1972; MA, Brigham Young University, 1974; PhD, Bowling Green State University, 1978.


Babich, Judith, Associate Professor, School of Performing Arts (1984). BA, Edgell College, 1974; MA, University of Cincinnati, 1976; PhD, University of California, 1981.

Badgett, Barry T., Assistant Professor, School of Art and Design (1993). BFA, Virginia Commonwealth University-Richmond, 1985; MFA, Syracuse University, 1990.

Bagai, Rajiv, Assistant Professor, Computer Science (1990). BS, Birla Institute of Technology and Science, 1983; MS, University of Victoria, 1987; PhD, 1990.


Bajaj, Prem N., Associate Professor, Mathematics and Statistics (1968). BA, Punjab University, 1970; MS, Case Western Reserve University, 1967; PhD, 1968.

Bakken, Linda, Associate Professor, Administration, Counseling, Educational, and School Psychology (1985). BA, Northern Michigan University, 1960; MS, Utah State University, 1979; EdD, Boston University, 1983.


Ballenger, Marcus T., Professor, Curriculum and Instruction and Associate Dean, Education (1970). BSE, North Texas State University, 1999; MEd, Texas Tech University, 1963; EdD, 1970.


Bateman, Merita M., Associate Professor, Finance, Real Estate, and Decision Sciences (1989). BS, University of South Carolina, 1946; MS, University of North Carolina, 1950; PhD, Oklahoma State University, 1967.


Bees, Julie L., Associate Professor, School of Music (1986). BM, Peabody Conservatory, 1974; DMA, University of Colorado, Boulder, 1982.


Bell, John A., Associate Professor and Chairperson, Management (1971). BA, University of Southern California, 1966; PhD, Texas Tech University.


Benson, Fred W., Assistant Professor, HWS—Administration of Justice (1976). BA, Earlham College, 1932; MBA, University of Michigan, 1954; JD, 1957.

Bereman, Nancy, Associate Professor, Management (1980). BA, Wichita State University, 1969; MBA, 1974; PhD, University of Minnesota, 1983.


Bernhart, Walter D., Professor, Aerospace Engineering (1954, 1964). BSCE, Kansas State University, 1963; MS, Wichita State University, 1979; PhD, Oklahoma State University, 1964; Licensed Professional Engineer—Kansas.


Billings, Dorothy K., Associate Professor, Anthropology (1968). BA, University of Wisconsin, 1955; PhD, University of Sydney, 1972.

Bischoff, William, Associate Professor, Geology (1994). BA, DePaul University, 1979; MS, Northwestern University, 1982; PhD, 1985.


Black, Phillip C., Assistant Professor, School of Music (1966). BM, Ball State University, 1977; MM, University of New Mexico, 1980.

Blakeslee, Donald J., Associate Professor, Anthropology (1976). BA, University of Nebraska, 1969; MA, 1971; PhD, University of Wisconsin-Milwaukee, 1975.


Blazieck, Donald L., Assistant Professor, HWS—Administration of Justice (1976). BA, Northern Illinois University, 1967; MA, 1970; PhD, Michigan State University, 1976.

Bogner, Donna J., Visiting Assistant Professor, Chemistry (1991). BS, McPherson College, 1965; MSEE, Wichita State University, 1972; PhD, Kansas State University, 1981.


Booth, Shahar, Assistant Professor, Mathematics and Statistics (1989). BA, Tel-Aviv University, Israel, 1984; MA, University of California-Santa Barbara, 1987; PhD, 1989.

Born, John D., Jr., Associate Professor, History (1965). BA, University of Texas, 1952; MA, University of Houston, 1958; PhD, University of New Mexico, 1963.

Borresen, C. Robert, Associate Professor, Psychology (1965). BS, Northwestern University, 1953; AM, University of Missouri, 1958; PhD, 1968.
State University, 1974; PhD, 1991.

Consiglio, Catherine A., Assistant Professor, School of Music (1990). BA, Wichita State University, 1979; MA, New England Conservatory, 1983.

Cook, Nada, Assistant Professor, Modern and Classical Languages and Literatures (1988). BA, University of Zagreb, Yugoslavia, 1979; MA, University of California at Berkeley, 1988; PhD, University of California-Berkeley, 1990.

Corbett, Donald L., Professor, School of Music (1971). BME, Wichita State University, 1953; MME, 1959; EdD, University of Kansas, 1977.


Cranford, Jerry L., Associate Professor, Communicative Disorders and Sciences (1985). BA, Wichita State University, 1964; PhD, Vanderbilt University, 1969.


Crown, Gary D., Associate Professor, Mathematics and Statistics (1962, 1968). BA, Wichita State University, 1960; MS, 1962; PhD, University of New Mexico, 1968.

Crum, Dorothy E., Associate Professor, School of Music (1973). BA, Barrington College, 1966; MM, Western Kentucky University, 1968; PhD, University of Colorado, 1977.


Dadashzadeh, Mohammad, Associate Professor, Finance, Real Estate, and Decision Sciences (1989). MS, Massachusetts Institute of Technology, 1979; MBA, American International College, 1979; PhD, University of Massachusetts, Amherst, 1985.


Davis, Gayle R., Associate Professor and Chairperson, Center for Women's Studies and Religion (1982). BA, Muskingum College, 1968; MA, Michigan State University, 1975; PhD, 1981.


Dawe, Margaret, Assistant Professor, English (1993). BA, University of Virginia, 1979; MS, Northwestern University, 1980; MFA, City University of New York, 1989.


Decker, Jay C., Professor, School of Music (1971). BME, Wichita State University, 1956; MSME, University of Illinois, 1962; DMA, University of Missouri at Kansas City, 1971.


deSilva, Dharma, Professor, Management (1976). BSBA, University of Evansville, 1957; MS, Southern Illinois University 1959; PhD, Indiana University, 1966.

Deskins, James W., Professor and Director, School of Accountancy (1985). BBA, University of Oklahoma, 1960; MBA, 1961; PhD, University of Texas at Austin, 1963. CPA—Oklahoma and Texas.

Dettjen, Wilma E., Assistant Professor and Undergraduate Coordinator, Modern and Classical Languages and Literatures (1990). BA, University of California-Davis, 1971; MA, California State University-Sacramento, 1982; PhD, University of California-Berkeley, 1990.


Deyoe, Nancy, Assistant Professor and Principal Cataloger, Catalog Department, Library (1987). BA, Kansas State University, 1983; MLS, University of Denver, 1984.


Distler, Donald A., Associate Professor, Biological Sciences (1963). BA, University of Louisville, 1932; MS, 1958; PhD, University of Kansas, 1966.


Dotzour, Mark G., Associate Professor and Barton Fellow, Finance, Real Estate and Decision Sciences (1987). BBA, Wichita State University, 1976; PhD, University of Texas at Austin, 1987.

Douglas, Donald M., Associate Professor, History (1965). BA, Kansas State University, 1961; MA, 1963; PhD, University of Kansas, 1968.

Downes, Kathy A., Assistant Professor and Administrative Services Librarian, Library (1979). BS, Mississippi University for Women, 1978; MLS, University of Kentucky, 1979; MPA, Wichita State University, 1985.


Dreifort, John E., Professor, History and International Relations (1970). BS, Bowling Green State University, 1965; MA, 1966; PhD, Kent State University, 1970.

Duell, Dennis C., Associate Professor, Economics (1967). BS, Kansas State University, 1961; MS, 1963; PhD, University of Illinois, 1969.

Duell, Orpha K., Associate Professor, Administration, Counseling, Educational, and School Psychology (1967). BS, Kansas State University, 1963; MS, University of Illinois, 1965; PhD, 1967.

Dunning, Wayne W., Assistant Professor, HWS—Administration of Justice (1981). BS, Iowa State University, 1952; MS, 1959; PhD, 1964.

Duram, James C., Professor, History (1968). BA, Western Michigan University, 1961; MA, 1963; PhD, Wayne State University, 1968.

Eaglesfield, Jeanette, Associate Professor and Head of Collections, Library (1993). BA, University of Missouri-Columbia, 1964; MA, Rutgers-The State University of New Jersey, 1971; MLS, Simmons College-Boston, 1972.


Egbert, Robert L., Associate Professor, Electrical Engineering and Director, WSU Center for Energy Studies (1980). BSEE, University of Missouri at Rolla, 1972; MS, 1973; PhD, 1976. Licensed Professional Engineer—Missouri, Kansas.


Eller, James C., Assistant Professor, Library and Associate Dean, Library Services (1971). BSE, Emporia State University, 1958; MLS, 1967; EdD, Wichita State University, 1984.


El-Sayad, Mohsen M., Associate Professor, Physical Therapy (1992). BS, Cairo University, 1967; MS, 1974; MS, Indiana University, 1978; PhD, 1981.

Erickson, James, Associate Professor, English (1964). BA, University of Minnesota, 1955; MA, 1957; PhD, 1961.

Ericson, David F., Assistant Professor, Political Science (1992). BA, Wayne State University, 1972; MA, University of Michigan, 1976; PhD, University of Chicago, 1987.


Faires, Wesley L., Associate Professor, Communicative Disorders and Sciences (1963). BA, Wichita State University, 1958; MA, 1962; PhD, 1965.

Farnsworth, David N., Professor, Political Science (1956). BA, Wichita State University, 1953; AM, University of Illinois, 1955; PhD, 1959.


Fatehi-Sedeh, Kamal, Associate Professor, Management (1983). BA, College of Business Science, 1965; BS, Bowling Green State University, 1971; MBA, Western Illinois University, 1972; PhD, 1976.


Fernandez, Jeffrey E., Associate Professor and Boeing Fellow, Industrial Engineering (1996). BEng, NED University of Engineering and Technology, Pakistan, 1982; MSIE, Texas Tech University, 1983; PhD, 1986. Licensed Professional Engineer—Texas.


Fife, Ninfa Matson, Assistant Professor, Physical Education (1959). BS, Texas Woman's University, 1958; ME, Wichita State University, 1967.

Fillion, Bryant P., Professor, Curriculum and


Fletcher, Phyllis, Assistant Professor, Nursing (1986). BSN, Wichita State University, 1976; MN, 1980.

Foley, Mark, Instructor, School of Music (1989). BM, University of Minnesota, 1984; MM, Eastman School of Music of the University of Rochester, 1989.

Foran, Michael F., Professor, School of Accountancy (1983). BS, University of Arizona, 1967; MAS, University of Illinois, 1968; PhD, University of Washington, 1972; CMA; CPA—Texas, Oklahoma.

Foran, Nancy Joyce, Associate Professor, School of Art and Design and Assistant to Dean, Fine Arts (1966). BSE, University of Kansas, 1961; MSE, 1963; MFA, 1971.

Fowler, Thomas A., Assistant Professor, School of Music (1979). BME, Wichita State University, 1968; MME, 1979.

Fox, L. Raymond, Professor, Biological Sciences (1979). BA, University of California, Santa Barbara, 1963; PhD, 1967.


Fry, Maurice A., Professor, Administration, Counseling, Educational, and School Psychology (1968). BS, University of South Dakota, 1957; MEd, 1963; PhD, University of Iowa, 1967.

Full, William E., Associate Professor, Geology (1980). BS, University of Notre Dame, 1969; MS, University of Illinois-Chicago Circle, 1980; PhD, University of South Carolina, 1982.

Furtwengler, Carol B., Associate Professor, Administration, Counseling, Educational, and School Psychology (1990). BS, Bowie State University, 1972; MA, George Mason University, 1976; PhD, Vanderbilt University, 1980.


Gaunt, Philip, Associate Professor and Director, Research and International Program, Elliott School of Communication (1990). BA, Reed College, 1959; MA, Indiana University, 1968; PhD, 1974.


Gibson, George, Professor, School of Music (1967, 1980). BM, University of Miami, 1956; MM, University of Texas, 1959; DMA, University of Southern California, 1971.

Gladhart, Stephen C., Assistant Professor and Chairperson, Health Science and Director, Health Science Program (1974). BA, Wichita State University, 1969; MA, 1972; EdD, University of Kansas, 1977.


Goldman, Louis, Associate Professor, Curriculum and Instruction (1962). BA, University of Michigan, 1950; MA, Columbia University, 1954.


Goodell, Phillips W., Assistant Professor, Marketing and Small Business (1966). AB, Princeton University, 1953; MBA, Stanford University, 1957; PhD, Texas Tech University, 1967.


Graham, A. Richard, Professor, Mechanical Engineering and Director, Center for Technology Application (1965). BSME, Kansas State University, 1957; MS, 1960; PhD, University of Iowa, 1966.

Graham, Gerald H., R.P. Clinton Distinguished Professor, Management and Dean of W. Frank Barton School of Business (1967). BS, Northwestern State College, 1959; MSBA, 1960; PhD, Louisiana State University, 1968.


Gregg, Alvin L., Assistant Professor, English (1968). BA, Texas Tech University, 1956; MA, 1957; PhD, University of Texas, 1969.

Graywall, Mahesh S., Professor, Mechanical Engineering (1969). BSC, University of Allahabad, India, 1953; BS, University of California at Berkeley, 1957; MS, 1959; PhD, 1962; Licensed Professional Engineer-Kansas.


Gries, John C., Associate Professor and Chairperson, Geology (1971). BA, University of Wyoming, 1962; MA, 1965; PhD, University of Texas, 1970.


Gyntil, Anthony F., Associate Professor, History (1971). Diplome d'Humanites, St. Stanislaus Papier, Belgium, 1950; BPhi, Maison de Philosphie, Brussels, Belgium, 1953; MA in Theology, Maison de Theologie, Universite de Louvain, Belgium, 1957; MA, University of Detroit, 1966; PhD, 1971.


Halcomb, Charles G., Professor, Psychology (1990). BA, Oklahoma Baptist University, 1958; PhD, Baylor University, 1964.

Halsemed, Helen L., Assistant Professor, Nursing (1970). BSN, University of Kansas, 1955; MED, University of Minnesota, 1959; PhD, Kansas State University, 1962.

Hamdeh, Hussein, Assistant Professor, Physics (1989). BS, Lebanese University, 1978; MS, Northeastern University, 1980; PhD, 1986.

Hamilton, Cheryl M., Assistant Professor, School of Art and Design (1993). BFA, University of Nebraska-Lincoln, 1970; MS, University of Tennessee-Knoxville, 1977.


Hannrabahan, Susan M., Assistant Professor and Director of Physical Therapy Program (1991). BS, University of Kansas, 1975; MBA, 1983; PhD, Temple University, 1992.


Hardy, James L., Professor, School of Music (1965). BSE, Southwest Missouri State University, 1948; MME, University of Kansas, 1956; EdD, 1969.

Harmon, Dorothy A., Instructor and Director, Marcus Center for Continuing Education (1974). BA, Wichita State University, 1946.

Hartman, John J., Professor, Sociology (1968). BS, Southwest Missouri State University, 1961; MS, University of Missouri, 1963; PhD, 1966.


Hawley, Donna J., Professor, Nursing and Director, Graduate Nursing Education (1981). BSN, University of Iowa, 1968; MA, University of Missouri at Kansas City, 1971; MN, University of Kansas, 1973; MS, University of Nebraska, 1975; PhD, University of Nebraska, 1980.
Wong, John D., Assistant Professor, Hugo Wall School of Urban and Public Affairs (1990). BBA, Wichita State University, 1982; MA, 1984; JD, Washburn University, 1986; PhD, Northeastern University, 1990.

Wood, Michael A., Assistant Professor and Director, Media Resources Center (1985). BS, Kansas State University, 1969; MS, 1973; MFA, University of Southern California, 1979.


Wright, David W., Assistant professor, Sociology (1993). BA, Indiana University-Purdue University at Indianapolis, 1987; MA, Purdue University, 1989; PhD, 1992.


Yeootis, Catherine G., Assistant Professor, Curriculum and Instruction (1979). BA, Washington State University, 1963; MA, Purdue University, 1973; PhD, 1976.


York, Paul K., Professor, Electrical Engineering (1989). BSEE, Texas A&M University, 1961; MSEE, University of New Mexico, 1963; PhD, Texas A&M University, 1967.

Youngman, Arthur L., Assistant Professor, Biological Sciences (1968). BA, Montana State University, 1959; MS, Case Western Reserve University, 1961; PhD, University of Illinois, 1965.

Zandler, Melvin E., Associate Professor, Chemistry (1966). BA, Friends University, 1960; MS, Wichita State University, 1963; PhD, Arizona State University, 1965.


Zoller, Peter T., Associate Professor, English and Associate Vice President, Academic Affairs (1973). BA, University of San Francisco, 1965; MA, Claremont Graduate School, 1966; PhD, 1970.
Adjunct Faculty—Fall, 1993

Absiher, Patsy—Dental Hygiene
Agullera, David—Medical Technology
Albright, Beverly Jean—Respiratory Therapy
Alden, John—Physician Assistant
Alexander, Holly—Medical Technology
Allen, Amy S.—Physical Therapy
Alles, Larry—Medical Technology
Allbrook, Cyndy—Physical Therapy
Amberg, Sally B.—Physical Therapy

Anderson, Patricia J.—Nursing
Argo, Linda Kay—Medical Technology
Armstrong, Nancy G.—Physical Therapy
Auneck, Patricia—Physical Therapy
Aust, Katherine—Physical Therapy
Babb, R. Russell—Respiratory Therapy
Bachman, Karen—Physical Therapy
Barnett, Cody G.—Physical Therapy
Barton, Nancy—Nursing
Bartk, Cindy—Respiratory Therapy
Bartk, Rod—Respiratory Therapy
Bays, Sylvia—Medical Technology
Beard, Kathleen—Medical Technology
Beard, Alice—Medical Technology
Beasley, Yvonne L.—Nursing
Bell, Alice Thornton—Nursing
Bell, Tally—Nursing
Bell, Vicki L.—Respiratory Therapy
Bennett, Steven H.—Medical Technology
Benson, Beverly—Nursing
Black, Charles G.—Dental Hygiene
Blake, Robert D.—Physical Education
Bianchi, Kelli A.—Physical Therapy
Bloom, Barry T.—Respiratory Therapy
Boberg, Patricia P.—Medical Technology
Bowles, Sharon—Nursing
Brandt, Kim—Physical Therapy
Brandt, Mark—Physical Therapy
Breault, Susan Ann—Nursing
Broberg, Jean M.—Respiratory Therapy
Brown, Dennis—Nursing
Brown, Kathy—Physical Therapy
Brown, Shirley A.—Medical Technology
Bryan, Christoper—Medical Technology
Bugg, Gary—Health Science
Burbach, Cynthia A.—Nursing
Burns, Janet V.—Respiratory Therapy
Burnside, Linda—Medical Technology
Buzard, Joan E.—Physical Therapy
Byrne, Canda Eugena—Nursing
Byrne, Robert—Physician Assistant
Calvert, Kathryn—Medical Technology
Cannon, Susan—Physical Therapy
Cappelleti, Christine V.—Nursing
Carmen, Donal—Respiratory Therapy
Carson, Sylvia Ann—Nursing
Casado, Nancy Lynn—Nursing
Chandler, Steve—Physical Therapy
Childs, Belinda—Nursing
Chiles, Pamela Lea—Physical Therapy
Christiansen, Rosalie D.—Medical Technology
Clements, M. Jane—Nursing
Click, Carla—Medical Technology
Colby, Charles Chris—Physical Therapy
Cole, James—Res. Health Science
Colley, Cynthia D.—Respiratory Therapy
Compton, Dianne M.—Physical Therapy
Condon, Carol—Respiratory Therapy
Cowart Carolyn S.—Physical Therapy
Cox, Jane—Physical Therapy
Crispin, Judy—Physical Therapy
Crist, Jeff—Physician Assistant
Crow, Wendy L.—Medical Technology
Cusick, Edward K.—Physician Assistant
Dameron, Janet Lynn—Respiratory Therapy
Davenport, Barbara J.—Respiratory Therapy
Davis, A.B.—Health Science
Davis, John S.—Biological Sciences
Davies, Judy L.—Physical Therapy
Deiter, Reitha Heinen—Medical Technology
Denger, Sue—Nursing
Derey, Cindy—Medical Technology
Dick, Debra Ann Nelson—Respiratory Therapy
Dill, Robert—Medical Technology
Diskins, Mark A.—Continuing Education
Doherty, Stacy Lynn—Respiratory Therapy
Dorsey, Michael A.—Health Science

Downing, Gregory C.—Physician Assistant
Dugan, Cindy Anne—Respiratory Therapy
Dukich, Jean—Nursing
Duncan, Susan K.—Nursing
Duran, Hazel—Medical Technology
Eagan, Ron—Physical Therapy
Eagleton, Beth—Nursing
Ebbenkamp, Laurie—Physical Therapy
Egan, M. Sylvia—Health Science
Elston, Katherine—Physical Therapy
Emert, Barbara—Physical Therapy
Engel, David—Medical Technology
Evans, Leda—Respiratory Therapy
Fatherree, Allison—Respiratory Therapy
Ferguson, Laura—Physical Therapy
Fetterhoof, Jon—Physical Therapy
Finson, Richard L.—Physical Therapy
Fisher-Ross, Lisa—Physical Therapy
Flory, Debra S.—Respiratory Therapy
Floyd, Paula—Nursing
Fox, Debra J.—Respiratory Therapy
Friedman, Barbara—Nursing
Funke, Judy—Respiratory Therapy
Furst, Janet—Physical Therapy
Gaunt, Diane Allison—Nursing
Gilbert, Stanley R.—Respiratory Therapy
Gilsen, Teresa—Nursing
Goehring, Meri—Physical Therapy
Goering, Rosella—Nursing
Gonzalez, Ronda—Respiratory Therapy
Goodwin, Michael H.—Nursing
Gottschalk, Jeanne M.—Physical Therapy
Grace, Susan F.—Physical Therapy
Gray, James G.—Health Science
Gregory, Charlotte—Respiratory Therapy
Gregory, Jennie K.—Physical Therapy
Gribben, Marc—Respiratory Therapy
Griffith, Cecilia—Physical Therapy
Grober, Lisa—Physical Therapy
Guh, Linda Sue—Dental Hygiene
Gundy, Gretchen G.—Physical Therapy
Guthrie, Diana W.—Nursing
Hagman, Joseph—Physician Assistant
Halimel, Nizar—Respiratory Therapy
Hallacy, Tim—Respiratory Therapy
Hammon, Wally (Bill E.)—Physical Therapy
Hampton, David—Respiratory Therapy
Hanna, Michelle—Nursing
Harder, Rebecca Nadine—Physical Therapy
Harris-Mostowitz, Patricia—Physical Therapy
Hartley, Marilyn—Nursing
Hartman, Robbin A.—Physical Therapy
Hausman, Tamra Elizabeth—Physical Therapy
Hayworth, Dana L.—Physical Therapy
Hazan, Shirley Ellen—Nursing
Headings, David—Medical Technology
Hedges, Benjamin—Respiratory Therapy
Herman, Darla—Physical Therapy
Hermes, Myron—Medical Technology
Hershey, John H.—Nursing
Hinnen, Deborah—Nursing
Hinnenkamp, Sherri A.—Medical Technology
Hiskett, Evelyn—Respiratory Therapy
Hodges, Robin S.—Physical Therapy
Hoekstra, Clara—Respiratory Therapy
Hoffman, Jean A.—Physical Therapy
Hoffman, Sharon—Physical Therapy
Hogan, Juiy—Physical Therapy
Holand, Catherine—Physical Therapy
Holmes, Martha G.—Physical Therapy
Honesy, Doreen—Physical Therapy
Horberger, Susan J.—Nursing
Horning, Nonya—Respiratory Therapy
Housholder, Catherine—Physical Therapy
Huyer, D. Ann—Nursing
Hudson, Terri E.—Physical Therapy
<table>
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<th>Name</th>
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<td>Physician Assistant</td>
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- Nef, Jeff Lynn - Respiratory Therapy
- Nelson, Keith - Medical Technology
- Neufer, Justina - Nursing
- Newberry, Ron - Respiratory Therapy
- Nicolau, Kate - Counseling
- Noller, Mary Kathleen - Physical Therapy
- Northcutt, Melanie Dawn - Respiratory Therapy

Novotny, Jo L. - Medical Technology
- O'Brien, Robert J. - Health Science
- O'Hara, Brigid Denise - Physical Therapy
- Olson, Marlene - Physical Therapy
- Opask, Susan Diane - Physical Therapy
- Otto, Shirley - Nursing
- Palmer, Pamela - Physical Therapy
- Pfaender, Pamela A. - Biological Sciences
- Parker, James M. - Dental Hygiene
- Parks, Leland H. - Health Science
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- Patterson, Patricia Ellen - Nursing
- Pauli, Carol J. - Medical Technology
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- Perry, Jack L. - Medical Technology
- Person, Pamela K. - Physical Therapy
- Peterson, Joni - Medical Technology
- Petersen, Susan S. - Physical Therapy
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- Peterson, Susan G. - Nursing
- Pile, Merrill - Counseling
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- Renner, Kathy - Physical Therapy
- Reno, Rudy - Nursing
- Resnick, Linda - Physical Therapy
- Rietz, Kurt - Health Science
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- Robbins, Anita - Physical Therapy
- Robertson, Joseph - Physician Assistant
- Robinson, Charlene H. - Nursing
- Robinson, Greg - Health Science
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- Rogers, March - Physical Therapy
- Root, Gregg R. - Physical Therapy
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- Rose, Shelby - Clinical Sciences
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- Rybolt, Judith - Medical Technology
- Samer, Harry - Medical Technology
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- Simon, Jayson - Respiratory Therapy
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- Slief, Susan Lynn - Respiratory Therapy
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Lecturers and Adjunct/Faculty Associates Fall, 1993

Aaron-Leary, S. Leigh—Psychology
Aarsen, Johannes—Finance, Real Estate, and Decision Sciences
Alagic, Mara—Mathematics and Statistics
Agarwal, Amit—Computer Science
Allen, Anneke S.—Chemistry
Allen, Molly S.—Psychology
Allen, Rose L.—Communicative Disorders
Alguire, Laurie L.—Psychology
Alvarez, Steven M.—Mathematics and Statistics
Anderson, Mark F.—HWS-Administration of Justice
Anderson, Peggy J.—Curriculum and Instruction
Aregay, Yeshewawoin—Mathematics and Statistics
Armstrong, Richard N.—Elliott School of Communication
Babcock, Mary Kathleen—Administration, Counseling, Educational, and School Psychology
Banowetz, Arleen F.—Media Courses
Barber, Mary Patricia—Intensive English Language Center
Barnes, Ethnie J.—Anthropology
Barnhard, Leah C.—Economics
Bartel, Stanley Roy—Curriculum and Instruction
Beery, Jerrie L.—School of Performing Arts
Bernstein, Daniel Jason—Computer Science
Bernstorff, Elaine D.—Communicative Disorders
Bever, Sharon Kay—Computer Science
Biggs, Thomas—Curriculum and Instruction
Blackburn, Paula M.—Elliott School of Communication
Blake, Robert D.—Physical Education
Bliss, Margaret Jane—Computer Science
Blooomquist, Phyllis James—Elliott School of Communication
Bludworth, Diana Gayle—Elliott School of Communication
Bonner, H. Michael—Mechanical Engineering
Boschmann, Hugo—Biological Sciences
Bouffard, David L.—Marketing and Small Business
Bowes, Phillip A.—Reading and Study Skills Center
Breckbill, Margot A.—HWS-Social Work
Breuer, Kim Tyler—HWS-Administration of Justice
Brittain, Lynette M.—Curriculum and Instruction
Brooks, William L.—Finance, Real Estate, and Decision Sciences
Bruce, Terence B.—Elliott School of Communication
Carney, Christopher Brian—Finance, Real Estate, and Decision Sciences
Carrell, David Lee—Mathematics and Statistics
Carson, Nancy J.—Communicative Disorders
Casado, Narcisse S.—Curriculum and Instruction
Catt, Catherine Marie—English
Chalhoub, Mohammad Amin—Mathematics and Statistics
Cheng, Kenny K.—Mathematics and Statistics
Churchman, Vicki L.—Curriculum and Instruction
Claycomb, Vincentia Ann—Management, Marketing and Small Business
Collins, Bernard G.—Modern and Classical Languages and Literatures
Conlee, John Thomas—Finance, Real Estate, and Decision Sciences
Connolly, Julie Wright—HWS-Administration of Justice
Copp, Lagretta L.—History
Crowns, Arthur J.—HWS-Administration of Justice
Dahl, David L.—Marketing and Small Business
Deaver, Margaret A.—Curriculum and Instruction
Decker, Terence N.—Economics
DeLong, Rita Ann—Mathematics and Statistics
Delong, Susan E.—Modern and Classical Languages and Literatures
Dennel, Karen S.—Finance, Real Estate, and Decision Sciences
Deng, E. Sue—Wesley/Rural Health/Nursing
Derk, Timothy J.—Physical Education
Doughter, Roger L.—Finance, Real Estate, and Decision Sciences
Duke, Patricia A.—Intensive English Language Center
Dunn, Cheryl A.—Administration, Counseling, Educational, and School Psychology
Edginton, Mary P.—Mathematics and Statistics
Eells, Laura L.—Sociology
Elder, Teresa A.—Physical Education
Elliott, Jean B.—Minority Studies
Everett, Ethan R.—Psychology
Ewonus, Jill Susan—School of Performing Arts
Farlow, Danny L.—Physical Education
Farmer, Shelley D.—Modern and Classical Languages and Literatures
Fehrmann, Joseph Bernard—Management
Fisher, Nancy M.—Elliott School of Communication
Fisher, Randall E.—Finance, Real Estate, and Decision Sciences
Flann, Lynnette M.—Geology
Fordham, Craig P.—Health Science
Forster, Donald A.—Sociology
Frye, Donna R.—Nursing
Frye, Tommy Raye—School of Performing Arts
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Gaug, Janice Elan—English
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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 usually are 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 (6-8P means six to eight hours of practicum per week).

Abbreviations
The following abbreviations of academic departments and areas are used in reference to courses offered by those departments.

Art G.  Graphic design
Art H.  Art history
Art S.  Studio arts
Av. Mgt.  Aviation management
B. Law  Business law
Biol.  Biological sciences
Bus. E.  Business education
CESP  Counseling, educational, and school psychology
Chem.  Chemistry
Chin.  Chinese
Cl  Curriculum and instruction
Comm.  Communication
CS  Computer science
Dance  Dance
DH  Dental hygiene
DS  Decision sciences
EAS  Educational administration and supervision
Econ.  Economics
EE  Electrical engineering
Engl.  English language and literature
Engr.  General engineering
Entre.  Entrepreneurship
Fin.  Finance
Fren.  French
Geog.  Geography
Geol.  Geology
Germ.  German
Geron.  Gerontology
HSOP  Health services organization and policy
Hist.  History
Hnrs.  Honors Program
HRM  Human Resource Management
HS  Health Sciences
IE  Industrial engineering
I. Tec.  Industrial technology
Ital.  Italian
Japan  Japanese
LAS-I  Liberal arts interdisciplinary
Lat.  Latin
Legal  Legal assistant
Ling.  Linguistics
Math.  Mathematics
ME  Mechanical engineering
Med. T.  Medical technology
Mgmt.  Management
Min. St.  Minority studies
Mkt.  Marketing
Mus. A.  Applied music
Mus. C.  Musicology-composition
Mus. E.  Music education
Mus. P.  Music performance
Nurs.  Nursing
PA  Physician Assistant
P. Adm.  Public administration
Phil.  Philosophy
Phys.  Physics
Pol. S.  Political science
Port.  Portuguese
Psy.  Psychology
PT  Physical therapy
RE  Real estate and land use
Sc. Wk.  Social work
Soc.  Sociology
Span.  Spanish
Stat.  Statistics
Thea.  Theatre
UC  University College
Wom. S.  Women's studies
Academic Programs at Wichita State University
Are Accredited by or Hold Membership
in the Following Associations

North Central Association of Colleges and Schools
Accreditation Board of Engineering and Technology
American Assembly of Collegiate Schools of Business
American Bar Association
American Dental Association
American Speech-Language and Hearing Association,
North Central Association of Colleges and Schools
Committee on Allied Health Education and Accreditation
Committee on Accreditation in Education
of the American Physical Therapy Association
Council on Social Work Education
Kansas Board of Emergency Medical Services
Kansas State Board of Nursing
Kansas State Department of Education
National Association of Schools of Dance
National Association of Schools of Music
National Council for Accreditation of Teacher Education
National League of Nursing

A complete listing of the programs and degrees offered at Wichita State University is located on the inside back cover of this Catalog.
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A = Associate  
B = Bachelor  
M = Master  
S = Specialist  
D = Doctorate  

*Master of Fine Arts, a terminal degree