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Undergraduate Catalog 1999-2000
This catalog is a guide for information only and is not a contract. This catalog becomes effective Fall Semester 1999 and extends through the Summer Session 2000. The official University address is Wichita State University, 1845 Fairmount, Wichita, Kansas 67260. The general University telephone number is (316) 978-3456. For admission information, call toll-free (800) 362-2594. The University's World Wide Web address is www.wichita.edu

The University reserves the right to change any of the rules and regulations of the University at any time, including those relating to admission, instruction, and graduation. The right to withdraw curricula and specific courses, alter course content, change the calendar, and impose or increase fees similarly is reserved. All such changes are effective at such times as the proper authorities determine and may apply not only to prospective students but also to those who already are enrolled in the University.
Academic Calendar for 1999-2000

Fall Semester 1999
Aug. 16-21..........................Fall semester registration
Aug. 23..............................Weekday and evening classes begin
Sept. 6..............................Labor Day, holiday
Oct. 15..............................Midterm point
Oct. 29..............................Final date for withdrawal with nonpenalty grades
Nov. 19-Jan. 9......................Telephone registration period for spring semester
(exact dates published in the Schedule of Courses)
Nov. 24-28...........................Thanksgiving recess
Dec. 9..............................Last day of classes
Dec. 10..............................Study Day
Dec. 11-17..........................Final examinations
Dec. 18..............................Fall semester ends

Spring Semester 2000
Jan. 10-15...........................Spring semester registration
Jan. 17..............................Martin Luther King, Jr. Day, holiday
Jan. 18..............................Classes begin
March 10...........................Midterm point
March 20-26........................Spring recess
March 31...........................Final date for withdrawal with nonpenalty grades
April 16-Aug. 5....................Telephone registration period for fall semester
(exact dates published in the Schedule of Courses)
May 8..............................Last day of classes
May 9..............................Study Day
May 10-16..........................Final examinations
May 14..............................Commencement
May 17..............................Spring semester ends

Summer Semester 2000
May 22-June 2......................Presession and workshops
May 29..............................Memorial Day, holiday
May 30-June 2......................Summer Session registration
June 5..............................Classes begin, first four-week term and
eight-week term
June 30..............................Last day of first four-week term
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
Wichita State University does not discriminate in its programs and activities on the basis of race,
religion, color, national origin, sex, age, or disability. The following person has been designated to
handle inquiries regarding nondiscrimination policies: Director, Office of Equal Employment
Opportunity, Wichita State University, 1845 Fairmount, Wichita, Kansas 67260-0145; telephone
316 978-3371.
General Information

1998-99 University and Academic Officers
Donald L. Beggs, President, effective January 1999
Ted D. Ayres, General Counsel and Associate to the President
James J. Rhatigan, Senior Vice President
Frederick Sudermann, Senior Advisor to the President
Bobby Patton, Vice President for Academic Affairs
Elizabeth H. King, Vice President for University Advancement
Roger D. Lowe, Vice President for Administration and Finance
Anthony R. Ross, Interim Vice President for Student Affairs
Michael Vincent, Dean of the Graduate School
Gerald H. Graham, Dean of the W. Frank Barton School of Business
Jon M. Engelhardt, 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
Peter A. Cohen, Dean of the College of Health Professions, effective January 1999
David C. Glenn-Lewin, Dean of Fairmount College of Liberal Arts and Sciences
Jacqueline J. Snyder, Dean of Academic Outreach
Kathy A. Downes and Philip C. Howze, Interim Deans of Libraries
Bill Belknap, Director of Intercollegiate Athletic Association, Inc.

Board of Regents
State of Kansas
Clay Blair III, Mission Hills
Harvey W. Craig, Jr., Topeka
William R. Docking, Arkansas City
Tom E. Hammond, Wichita
Kenneth C. Havner, Hays
Murray G. Dull, Smith Center
Sylvia L. Robinson, Kansas City
Robert V. Talkington, Iola
Sidney T. Warner, Cimarron
Tom W. Bryant, Interim Executive Director, Topeka

Mission Statement
In 1991, the Kansas Board of Regents approved the following mission statement for Wichita State University:
Wichita State University is committed to providing comprehensive educational opportunities in an urban setting. Through teaching, scholarship, and public service, the University seeks to equip both students and the larger community with the educational and cultural tools they need to thrive in a complex world, and to achieve both individual responsibility in their own lives and effective citizenship in the local, national, and global community.

High quality teaching and learning are fundamental goals in all undergraduate, graduate, and continuing education programs. Building on a strong tradition in the arts and sciences, the University offers programs in business, education, engineering, fine arts, and health professions, as well as in the liberal arts and sciences. Degree programs range from the associate to the doctoral level and encompass 75 fields of study; nondegree programs are designed to meet the specialized educational and training needs of individuals and organizations in South Central Kansas.

Scholarship, including research, creative activity, and artistic performance, is designed to advance the University’s goals of providing high quality instruction, making original contributions to knowledge and human understanding, and serving as an agent of community service. This activity is a basic expectation of all faculty members at Wichita State University.

Public and community service activities seek to foster the cultural, economic, and social development of a diverse metropolitan community and of the state of Kansas. The University’s service constituency includes artistic and cultural agencies, business and industry, and community educational, governmental, health, and labor organizations.

Wichita State University pursues its mission utilizing the human diversity of Wichita, the state’s largest metropolitan community, and its many cultural, economic, and social resources. The University faculty and professional staff are committed to the highest ideals of teaching, scholarship, and public service, as the University strives to be a comprehensive, metropolitan university of national stature.

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 full- or part-time. Although the 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 43 master’s degrees which offer study in more than 100 areas; specialist in education degrees; and doctoral degrees in applied mathematics; chemistry; communicative disorders and sciences; human factors psychology and community/clinical psychology; educational administration; and aerospace, electrical, industrial, and mechanical engineering. A 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 ses-
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, religion, 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 the Office of Equal Employment Opportunity, Wichita State University, 1845 Fairmount, Wichita, Kansas 67260-0415. The Office of Affirmative Action 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 Americans with Disabilities Act. 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 Office of Disability Services.

Student Responsibility

Students at Wichita State University have the following responsibilities:

1. To consult their advisors on all matters pertaining to their academic careers, including changes in their programs
2. To observe all regulations of their college and select courses according to the requirements of that college
3. To attend all meetings of each class in which they are enrolled (instructors will announce at the beginning of the semester if they consider attendance in computing final grades)
4. To fulfill all requirements for graduation
5. To be personally responsible for fulfilling all requirements and observing all regulations at Wichita State
6. To answer promptly to all written notices from advisors, 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:

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.

The Student Code of Conduct provides guidelines for students’ behavior as well as an overview of the discipline process. The code is published in the Student Handbook, which is available in the Office of Student Life, 105 Grace Wilkie Hall. It is also available on the WSU web site (www.wichita.edu) under University Policy and Procedures Manual.

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.

Academic misconduct, which includes academic dishonesty, is behavior in which a deliberate means is employed to gain undeserved intellectual credit or advantage, either for oneself or another, or which is disruptive of a course of study or abuse toward members of the University community. Some examples of academic misconduct are:

1. Plagiarism, intentionally using the printed/published data, distinctive ideas, or language of someone else without specifically acknowledging the original source, for example, copying another student’s paper, creative work article, or computer work and submitting it as part of an assignment. On the other hand, the use of “common knowledge” or of ideas that are not distinctive to a single source does not require acknowledgment. Subject to the foregoing, the particular circumstances under which acknowledgment is required may vary among the different disciplines which make up the University; in addition, the manner or style used to acknowledge a source will vary among disciplines. In a particular course, students must follow the plagiarism customs and standards of the discipline offering the course and acknowledge sources in the manner expected by that discipline. The respective college’s Academic Conduct Committee is charged with articulating such customs and standards, if any, and the instructor in any given course is responsible for making these standards clear.

2. Unauthorized collaboration on out-of-class projects. Students may not present work as individual when, in fact, the work was done with other students.

3. Cheating on exams, defined as the unauthorized use of information gained from other students and staff and/or with the assistance of notes, textbooks, etc. It is the responsibility of each instructor to inform students which information aids, if any, may be used on exams.

4. Unauthorized access to exams in advance of the examination. Students who in any unauthorized manner obtain exams in advance of the date and hour of the examination are committing an act of academic dishonesty. Unauthorized access to an exam does not include obtaining copies of exams given in previous semesters and returned to students, but it does include a sharing of information about an unreturned exam between a student in an earlier section of a class and a student in a later section.

5. Fraudulent alterations of academic materials. A student who alters documents or other information (such as grade reports, course withdrawal slips, or research data) to provide undeserved credit or advantage has committed an act of academic dishonesty.

6. Aiding and/or abetting an academically dishonest undertaking. A student is responsible for ensuring that his/her work is not misused by other students. Students are required to protect the integrity of their own work by, for example, not allowing, knowingly or through carelessness, another student to plagiarize a term paper or copy answers to an exam.

7. Sabotage of student/faculty/University work or property. Sabotage is any act by a student which intentionally or recklessly damages and/or destroys others’ work. For example, students who destroy computer programs written by other persons are committing acts of sabotage. Students who steal, destroy, or mutilate library materials also commit sabotage.

8. Bribery, blackmail, or intimidation attempts. Academic misconduct is present in gaining an unfair advantage over other students by giving money or gifts to other students, faculty, staff, etc. by threatening in any way other students, faculty, staff, etc. with exposure of a personal or professional incident, by threatening other students, faculty, staff, etc. with bodily or other types of harm; or in any attempt to do any of these things.

Responsibility for Academic Integrity

The fundamental responsibility for the maintenance of the standards of honesty rests upon the student. It is each student’s responsibility to be familiar with University policy on academic honesty and to uphold standards of academic honesty at all times in all situations.

Faculty members are responsible for clarification to their classes of those standards of honesty for class assignments or projects where such standards may be unclear or when such standards vary from the accepted norm. Each faculty member shall also make clear to each class early in the semester the faculty member’s own policy toward penalties he or she gives for breaches in academic integrity. In addition, it is anticipated that faculty members will be the persons who will discover most instances of academic misconduct. Accordingly, faculty need to be aware of the possibility that academic misconduct might occur, watchful for any instances of misconduct, and diligent in addressing those who act dishonestly. If a faculty member disciplines a student for academic misconduct, that information may be reported in writing to the chair of the faculty member’s department.

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.

Access to Records (Privacy Law)

The Family Educational Rights and Privacy Act of 1974 (FERPA) is a Federal law which provides that the institution will maintain the confidentiality of student education records.

Wichita State University accords all the rights under the law to students who are declared independent. Those rights are: 1) the right to inspect and review the student’s education records; 2) the right to request the amendment of the student’s
education records to ensure that they are not inaccurate, misleading, or otherwise in violation of the student's privacy or other rights; 3) the right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent; 4) the right to file with the U.S. Department of Education a complaint concerning alleged failures by Wichita State University to comply with the requirements of FERPA; and 5) the right to obtain a copy of Wichita State University's student records policy. You can obtain a copy of the policy from the Registrar's office.

No one outside the institution shall have access to nor will the institution disclose any information from students' education records without the prior written consent of the student(s) except to personnel within the institution who have a legitimate educational interest, to persons or organizations providing students financial aid, to accrediting agencies carrying out their accreditation function, to persons in compliance with a judicial order, and to persons in an emergency in order to protect the health or safety of students or other persons. All these exceptions are permitted under the Act.

Within the Wichita State community, only those members, individually or collectively, acting in the students' legitimate educational interests are allowed access to student education records. These members include personnel in the offices of Admissions, Registrar, Controller, Computing Center, Dean of Students, Financial Aid, Career Services, Cooperative Education, Planning, Testing, Library, College deans, academic advisors, and other administrative and academic personnel within the limitation of their need-to-know. "Legitimate educational interests" means 1) the information or records requested is(are) relevant and necessary to accomplishment of some task or determination; and 2) the task or determination is an employment responsibility for the inquirer or is a properly assigned subject matter for the inquirer's employment responsibility.

Social Security number and student status data may be provided to other state agencies for use in detection of fraudulent or illegal claims against state monies.

Public Notice Designating "Directory Information"

At its discretion the institution may provide "Directory Information" to anyone in accordance with the provisions of the Act.

Wichita State University hereby designates the following student information as public or "Directory Information."

Name, address(es), telephone number(s), dates of attendance, classification (freshman, sophomore, etc.), course load (full-time, half-time, less than half-time), class type (day, day/Evening, weekend only) previous institution(s) attended, major field(s) of study, awards, honors (includes Dean's list, degree(s) conferred (including dates), past and present participation in officially recognized sports and athletics, physical factors (height, weight of athletes).

Currently enrolled students may withhold disclosure of "Directory Information" (on an all or none basis) to non-institutional persons or organizations. You have an option to protect your privacy and not have such information as your address and telephone number released. Forms requesting the withholding of this information are available in the Registrar's Office, 117 Jardine Hall, and are returned to that office. Otherwise, the University assumes that you approve of disclosure of that information. The completed form must be received at the Registrar's Office by the end of the second week of the Fall Semester if you do not want to be included in the Campus Directory, which is published each Fall and which is available to people outside WSU. Requests to withhold "Directory Information" must be filed annually. Other than the Campus Directory, the University does not give or sell lists of students to private companies.

Family Educational Rights and Privacy Act

1. Definitions

A. Consent: Consent shall be in writing and shall be signed and dated by the student giving consent. It shall include: (a) purposes of records to be released; and (b) purposes for such release; and (c) parties or class of parties to whom such records may be released.

B. Directory Information: That information described in Section 99.3 of the "Final Rule on Education Records, Privacy Rights of Parents and Students." The information is defined by the code as: "Information relating to a student: Name, current address, level and school, date of birth, major field of study, participation in officially recognized activities and sports, height and weight of students, athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational institution attended by the student. The name and address(es) of the student's parents or guardian(s) may be disclosed when used for an official University new release about the student's receipt of degrees or awards or about participation in officially recognized activities or sports."

C. Disclosure: Permitting access to the release, transfer, or other communication of education records of the student or the personally identifiable information contained therein, orally, or in writing, or by electronic means, or by any other means to any party.

D. Education Records: Those records that are directly related to a student and that are maintained by the University or by a party acting for the University. Excluded from the category of "education records" are the following and to which the law does not guarantee the right of student access:

1) Records created by an individual staff member that are not revealed to any other individual except to a person who might substitute for, or replace, the original staff member.

2) Medical and psychological records that are maintained only in connection with provision of treatment to the student and that are not available to persons other than those providing treatment except that such records may be personally reviewed by a physician or other appropriate professional of the student's choice and with the student's written consent.

3) Records of the WSU Police Department maintained solely for law enforcement purposes, which are maintained separately, and which are not disclosed to individuals other than law enforcement officials sharing the same territorial jurisdiction.

4) Records that contain only information relating to a person after that person was no longer a student at the University. An example would be information collected by the University or the Alumni Association pertaining to the accomplishments of its alumni.

5) Employment records of any person if maintained in the normal course of business and used only for purposes relating to the employment, unless the person is employed at the University only because of her/his status as a student (that is, student hourly). In such cases, student employment records are education records but are to be maintained separately from other education records.
E. Legitimate Educational Interests:
The interests of University personnel who have a demonstrably legitimate need to review records in order to fulfill their official professional responsibilities. Such responsibilities must involve the University in its primary educational and scholarly functions and/or secondary administrative functions of maintaining property, disbursing funds, keeping records, providing living accommodations and other services, sponsoring activities, and protecting the health and safety of persons or property in the University community. If a question arises concerning the legitimacy of a request to review records, such question shall be referred to the vice president for student affairs.

F. Parent: Includes a parent, a guardian, or an individual acting as a parent of a student in the absence of a parent or guardian.

G. Personally Identifiable Information: Includes the name of the student; the student’s parent or other family member; the address of the student; personal identifiers, such as social security or student numbers; personal characteristics or other information that would make the student’s identity easily traceable.

H. School Official: Faculty, staff, student employees or committees (when the members of the committee are appointed or elected to an officially constituted committee) that perform a function or task on behalf of, and at the request of, the University, its faculty, colleges, schools or divisions.

I. Student: For purposes of this policy, anyone who is or has been enrolled at Wichita State University, with the following exception:

A person who has applied for admission to, but has never been in attendance at a component unit of the University (such as the various schools and colleges of the University), even if that individual is or has been in attendance at another component unit of the University, is not considered to be a student with respect to the component to which an application for admission has been made.

J. Unit Custodian of Student Records: Except as otherwise designated in this policy, the head of each academic or administrative unit is responsible for the education records within the unit.

2. Student Access to Education Records
A. A student has the right and shall be accorded the opportunity to inspect, review, and/or receive copies of his or her educational record, except as provided for below. The University must comply with the student’s request within a reasonable period of time, not to exceed 45 days after the request.

B. The student has the right to a reasonable request for explanation of the records and to copies of the records where necessary to provide full inspection and review. Such copies will be provided at the student’s request and expense; however, the charge to the student for any such records may not exceed $25 per page. The University may not charge a fee to search for or retrieve a record. If any question arises as to the identity of the requesting student, the student shall be asked to provide his or her University I.D. card and/or other positive identification.

D. The University is not required to afford inspection and review of the following records:

(1) Financial records of the student’s parents submitted as part of the financial aid process;
(2) Confidential letters and statements of recommendation that were placed in the student’s education records prior to January 1, 1975, if such letters were submitted with an understanding of confidentiality, and are used only for the purpose for which they were specifically intended;
(3) Confidential letters and statements of recommendation received after January 1, 1975, for which the student has signed a waiver of the right to access and which pertain to: (a) admission to this or any other educational institution or agency; (b) application for employment; or (c) receipt of an honor or honorary recognition so long as these letters are used solely for the purpose(s) for which they were specifically intended.

E. An individual who is an applicant for admission to the University, or to one of its component parts, or who is a student in attendance at the University, may waive his or her right to inspect and review confidential letters and confidential statements of recommendation, except that the waiver may apply to confidential letters and statements only if:

(1) The applicant or student is, upon request, notified of the names of all individuals providing the letters or statements;
(2) The letters or statements are used only for the purpose for which they were originally intended; and
(3) Such waiver is not required by the University as a condition of admission to or receipt of any other service or benefit from the University.

All waivers under this paragraph must be executed by the individual, regardless of age, rather than by the parent of the individual. All waivers must be in writing and signed by the student.

If an education record contains information on more than one student, the student may inspect only the information on himself or herself.

3. Waiver of Rights
The University may request, but not require, students to waive rights under this policy; the waivers must be in writing and signed by the student. Applicants for admission to the University and eligible students may waive rights to review confidential letters of recommendation only if:

(1) The applicant or student, upon request, is notified of the names of all persons providing letters;
(2) The letters are used only for the purpose for which they were originally intended;
(3) The waiver is not required as a condition of admission or for any other service or benefit of the University.

Waivers may be made with respect to specified classes of education records and/or persons or institutions.

The student may revoke any waiver in writing, the revocation to apply only to documents received or entered into the record after the date of execution of the revocation.

4. Disclosure of “Personally Identifiable” and “Directory” Information
The University shall obtain the written consent of the student before disclosing personally identifiable information from the education records of a student, other than directory information, except as otherwise provided in this policy.

The University may, without the consent of the student, disclose directory information, as described earlier. If a student wishes to have such information withheld, he/she must notify the Office of the Registrar. If a student wishes to prevent the publication of such information in the University telephone directory, he/she must notify the Office of the Registrar.

The University may disclose personally identifiable information without the consent of the student to school officials within the institution determined to have legitimate educational interests; to authorities to comply with a judicial order or subpoena, provided the University makes a reasonable effort to notify the student in advance of compliance; to
financial aid personnel in conjunction with an application for financial assistance; to organizations conducting studies for accrediting functions; and to appropriate persons in a health or safety emergency. Disclosure of personally identifiable information without the consent of the student may also be made when required by law or government regulation.

The University may disclose personally identifiable information from the education records of a student without a student's consent in connection with a student's request or receipt of financial aid, provided the disclosure is needed: (1) to determine the eligibility of the student for financial aid; (2) to determine the amount of financial aid; (3) to determine the conditions which will be imposed; or (4) to enforce the terms or conditions of the financial aid.

The University may disclose personally identifiable information from the education records of a student to appropriate parties in connection with an emergency if knowledge of the information is necessary to protect the health or safety of the student or other individuals. Disclosures for this purpose shall take into account: (1) the seriousness of the threat to the health or safety of the student or individuals; (2) the need for the information to meet the emergency; (3) whether the parties to whom the information is disclosed are in a position to deal with the emergency; and (4) the extent to which time is of the essence in dealing with the emergency.

The University Student Health Service is required to report to the Kansas Department of Health the names of students who have certain communicable diseases such as hepatitis, tuberculosis, and venereal disease. The Health Service is also required to report to local law enforcement officials the name of any student who is wounded with a deadly weapon.

5. Release of a Student's Grades

Board of Regents policy provides that the University may not withhold the written record of grades earned by any dependent student when the University receives a written request for any such grades form a student, a student's parents, or a student's legal guardian. The student will be notified in writing of any disclosure of his or her grades made to his or her parents or legal guardian. Dependency, for this purpose, is defined by the Internal Revenue Code of 1954, Section 152. Should the student be financially indebted to the University, the transcript request will not be honored and the person submitting the request will be so notified.

6. Notice to Third Parties

The University must inform the parties to whom personally identifiable information is given that they are not permitted to disclose that information to others without the written consent of the student and that the information is to be used only for the purpose(s) intended.

7. Providing Copies of Disclosed Records

When the unit custodian discloses personally identifiable information from the education record of a student, the unit custodian shall, at the student's request and expense, provide a copy of the disclosed record to the student, unless otherwise specified by this policy.

8. Destruction of Records

Each office which maintains education records shall adopt its own policy with regard to destruction of education records. No education record, however, may be destroyed if there is an outstanding request to inspect and review the record. Also, the record of access to the education record and any explanations which are a part of the record must be maintained for as long as the education record to which it pertains is maintained.

9. Maintaining Records of Request and Disclosures

The unit custodian shall maintain records of requests and disclosures of personally identifiable information from a student's education record. The record shall include, whether requests are granted or not, the name(s) of the person(s) who requested the information and their legitimate interests in the information. Records of requests and disclosures will not be maintained:

(1) for requests made by the student him/herself; (2) for requests for which the student has given written consent; (3) for requests made by school officials with legitimate educational interests; (4) for requests for directory information.

The record of requests and disclosures may be inspected by the student, by school officials responsible for the custody of the records, and by federal and state officials who have been given permission to access by the vice president for student affairs.

10. Students' Right to Challenge Information Contained in Education Records

A student may challenge the content of an education record on the grounds that the record is inaccurate, misleading, or otherwise in violation of the privacy or other rights of the student. No hearing under this policy shall be granted for challenging the underlying basis for the grade. However, the accuracy of its recording could be challenged.

The following procedure for challenging the content of an education record shall apply:

(1) The student has the right, upon reasonable request, for a brief explanation and interpretation of the record in question from the respective unit custodian.

(2) The unit custodian of the challenged education record, after reviewing the record with the student, shall settle the dispute informally with the student with regard to the deletion or modification of the education record. The unit custodian shall make his or her decision within a reasonable amount of time and shall notify the student of the decision.

(3) In the event the unit custodian disapproves the student's request to delete or modify the record in question, the student shall be notified by the unit custodian, in writing, of the decision and of the student's right to a formal hearing upon the request.

(a) All requests for formal hearings by the student shall be directed to the vice president for student affairs, and shall contain a plain and concise written statement of the specific facts constituting the student's claim.

(b) The hearings shall be conducted by a University staff member (hearing officer) who does not have a direct interest in the outcome of the challenge and who shall be appointed by the vice president for student affairs or his/her designee. The hearing shall be held within a reasonable time of receipt of the student's request and the student shall be notified reasonably in advance by the Hearing Officer of the date, place, and time of the hearing.

(c) At the hearing the student shall be afforded a full and fair opportunity to present evidence relevant to his/her claim and may, at his or her expense, receive assistance or be represented by any individuals of his/her choice.

(d) Based solely on the evidence presented at the hearing and within ten working days of the hearing, the hearing officer shall make a written recommendation to the vice president for student affairs or his/her designee together with written findings of fact concerning the
student's request. Within an additional fourteen (14) working days of receipt of the hearing officer's report, the vice president for student affairs or his/her designee shall notify the student in writing of the decision. The decision must include a summary of the evidence and the reasons for the decision.

(1) In the event the decision of the vice president for student affairs is adverse to the student's request, the student shall be notified of the opportunity to place with the education record a summary statement commenting upon the information in the records and/or setting forth any reason for disagreeing with the decision. If the questioned document is released to a third person, the student's summary statement shall accompany the release of any such information. The summary information shall be maintained for as long as the contested record is maintained.

(2) If a student challenges the content of a given record is successful, the University shall amend the education record accordingly and so inform the student. Upon the student's specific written request to the vice president for student affairs, the University shall make a reasonable effort to contact student-designated third persons who have received copied of the previous record to inform them of the change which has been made.

11. Complaint Procedure

If a student believes that the University is not in compliance with the Privacy Act, he/she should check first with the office involved and/or the Office of the Vice President for Student Affairs.

If a student wishes to file a complaint with the federal government concerning the University's failure to comply with the Privacy Act, he/she must submit the complaint in writing, to the Office of the Family Educational Rights and Privacy Act, Department of Health, Education and Welfare, 330 Independence Avenue, S.W., Washington, D.C. 20201. The FERPA office will notify the student when the complaint has been received. The FERPA office will investigate the complaint, and may require further information of its findings and basis for such findings. In the event the University is found not to be in compliance, it will be afforded the necessary time to comply. If it does not then comply, the matter will be sent to a review board for a hearing. For guidelines concerning this hearing procedure, see Section 99.64 and following of the Privacy Act.

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.

Students are encouraged to submit their application, fee, and official transcripts of previous work to 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.

Transcripts sent to the Office of Admissions must be mailed directly from the recording institution and will not be returned to the applicant.

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, religion, color, national origin, sex, age, or disability. Any person having inquiries concerning violations may contact the Office of Equal Employment Opportunity, Wichita State University, 1845 Fairmount, Wichita, Kansas 67260-0145.

Degree-Bound Students

Freshmen

Students who will graduate from accredited Kansas high schools and will not attend another college before coming to Wichita State will be admitted to the University as freshmen after submitting an application, official high school transcript and a nonrefundable $20 application fee. Scores for the test battery of the American College Testing Program (ACT) must be submitted by students less than 21 years of age prior to enrollment. Application may be completed in one of three ways:

1. Students may apply online at the WSU web site by completing the application and printing and sending in the signature form along with the application fee. Transcripts must be sent directly from all schools attended.

2. Students may apply by printing the application off the WSU web site, completing it and sending it along with the application fee. Transcripts must be sent directly from all schools attended.

3. Students also may apply by submitting a standard university application for admission and a nonrefundable application fee and having a six-semester transcript sent to the University. ACT scores also must be submitted to the University before enrollment.

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 application fee 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 870 on the SAT-I 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-I of 990 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.

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. Admission is based on the GED scores. ACT scores also are required if the student is admitted...
and less than 21 years of age before enrollment. Students who have not taken the ACT must take math and English placement tests for class position.

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 Fairmount College of Liberal Arts and Sciences for academic advising and career counseling through the University Advising Center.

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 Basic Skills include 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 each college or university attended.

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. These students must also submit an official transcript from their last high school. 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. Official high school transcripts are required of a transfer student with more than 24 semester hours of credit only if they wish to receive financial aid. 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 by Wichita State are computed with credit hours and credit points earned at Wichita State in calculating the student's overall 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

Wichita State University demonstrates its commitment to international education through its Office of International Education, which comprises three smaller units: the Office of International Admissions, the Intensive English Language Center, and the Office of International Programs. These units work together to assist international students with cultural acclimation, immigration counseling, English-language instruction, and admission to the University.

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

English requirements. All international undergraduate students at Wichita State University are required to demonstrate proficiency in English before beginning full-time academic study. Students, however, are not required to submit proof of English proficiency, such as TOEFL results, with their application for admission. The University will consider all undergraduate applicants for admission without proof of English proficiency. English proficiency may be demonstrated in the following ways:

1. Obtain a TOEFL score* of 530 or higher on the paper-based TOEFL.
2. Obtain a TOEFL score* of 197 or higher on the computer-based TOEFL.
3. Obtain an IELTS overall band score of 6.5 or higher.
4. Obtain a satisfactory score on the WSU English Proficiency Examination.
5. Complete the highest level of WSU’s Intensive English Language Center.
6. Complete at least 30 transferable semester-credit hours at a U.S. college or university.

*All TOEFL scores must be sent directly from the TOEFL office in Princeton, New Jersey.

Application information. In order to apply, all international undergraduate students must submit the following:
1. A completed International Undergraduate Application form.
2. US$ 50 nonrefundable application fee.
3. Official copies—in English—of all transcripts from all secondary schools, colleges, or universities attended.

Non-degree status. Some students wish to study for one or more semesters without earning a degree. Nondegree applicants must submit all of the required application materials and will receive the same consideration as degree candidates.

Other requirements. All international students are required to have a medical insurance policy before enrollment. If needed, medical insurance may be purchased at the University. All new students are required to have a tuberculosis skin test after their arrival in Wichita.

Graduate students. Graduate students should consult the Graduate Bulletin for more information.

For more information, write:
Office of International Education
Wichita State University
Wichita, Kansas 67260-0122 USA
Telephone: (316) 978-3232
Fax: (316) 978-3777
E-mail: intadm@wtsuvm.uc.wtsu.edu
Internet: www.wichita.edu

Graduate Students
Both degree and non-degree 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 desiring to pursue a graduate degree may apply for nondegree admission. Specific requirements for either degree or nondegree admission and for all graduate 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 WSU.

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 the Graduate School Office, 107 Jardine Hall, Wichita State University, Wichita, Kansas 67260-0004, (316) 978-3095.

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) 978-3095.

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.

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 college guest admission in the fall or spring semester also must submit an official transcript showing a 2.000 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.

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, students who have completed their junior year should submit an application and an official high school transcript and obtain their counselor’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. 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.
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 Admissions or with academic advisors in any of the undergraduate degree-granting colleges.

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

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

Residents of Kansas (for fee purposes) who leave the state retain their residency as long as they return to Kansas permanently within 12 months of departure.

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 dependent children, are authorized to pay the equivalent of resident fees immediately: (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 within the last thirty days under conditions other than dishonorable and who served at least two years in Kansas; (d) people who graduated from a four-year program at an accredited Kansas high school within 6 months of their enrollment at a state university, and who were Kansas residents for fee purposes at, or within 12 months of, high school graduation; and (e) dependent students as long as at least one parent is a Kansas resident for fee purposes; and (f) people who were recruited to, or transferred to Kansas within the last 12 months for a full-time job, and their spouse and dependent children.

The details about each of these exceptions are critical and are not all on this page. Several require certification of appropriate information on a special form. None of them is automatic. Contact the Registrar's Office, 102 Jardine Hall, for more information.

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.

Residency of new students enrolling for the first time at WSU is determined by the Admissions Office according to the above law/regulations. Such students should address questions concerning residency to the Admissions Office.

When a continuing student, who was initially classified as a non-resident, thinks he/she meets these residency requirements, then he/she must apply for residency using a form available from the Registrar's Office. Lower fees do not mean that someone has been classified as a resident—there are no non-resident fees, for example, for Workshops or Off-Campus Courses.

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 recategorization by the registrar becomes final. Appeals are reviewed and decided by the University Committee on Residence, 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 Advising
Wichita State University believes in the importance of quality academic advising. Each student is paired with a knowledgeable advisor who cares about the student's personal and intellectual development and academic and career success. Through the development of ongoing relationships, students are challenged and encouraged by advisors to develop academic and career plans that will optimize their unique abilities, goals, and aspirations.

Students may expect their advisors to listen and respond to their interests and concerns; to accept them as unique persons; to be reasonably accessible; to know policies, procedures, and information sources; and to be a personal resource for academic, career, and life goals.

In turn, students are expected to initiate and maintain contact with their advisors; to discuss information that may affect academic performance, such as work and family commitments; to learn University, college, and departmental requirements and to accept responsibility for them; and to seek assistance when needed. A good advising relationship promotes academic excellence, success, and achievement of educational goals.

University Advising Center
University Advising Center faculty and staff advisors focus their attention on assisting degree-bound exploratory students and nondegree-bound students to meet their unique goals, aspirations, and potential. The center's staff also serves as a primary general information and referral resource within the University.

Degree-bound Exploratory Students
Academic planning for these students requires remaining flexible while pursuing general education requirements so that they may transfer to any college within WSU once a major is declared.
Students develop educational planning skills, remove high school deficiencies, develop effective college-level study skills and habits, choose an academic major, develop personalized academic and career/life plans, and complete part of the general education requirements.

Each degree-bound student is assigned an academic advisor within the University Advising Center. When the student selects a major field of study, an immediate transfer occurs to the college that sponsors that program and an advisor from the selected discipline is assigned. Exploratory students should declare a major or degree preference within the first 48 hours of enrollment.

Nondegree-bound Students

University Advising Center faculty and staff provide nondegree-bound students services designed to be responsive to their unique needs and interests, responsibilities, and learning styles. These may involve self-enrichment, job advancement, career change, general updating, or professional certification. Programs, policies, and procedures emphasize ease of access to WSU and its resources. College and high school guest students and high school concurrent enrollment students fall in this category. The University Advising Center will connect a nondegree-bound student with an appropriate advisor upon request. Those students considering the possibility of transferring to degree programs at a later date should connect with specific college advising services as early as possible to assure development of the best possible educational foundation.

Additional Services Provided by the University Advising Center

1. Courses that promote academic success and connections to the University. These include introduction to the University, career exploration, and returning adult seminars.

2. Special programs that target the unique needs of WSU populations. These include returning adults, first-year students, students of color, student athletes, non-native speakers of English, exploratory students, and students admitted with special conditions.

3. Outreach services that support constituents of the University in the larger metropolitan area. These include business and industry visits and fairs, liaison with Kansas community colleges, the Wichita Area Technical College, and concurrent enrollment services for area high schools.

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**Where To Go For Academic Advising**

Academic advising is available through individual offices listed below for 1) degree-bound students who have decided to pursue a major or program in a specific college; 2) degree-bound exploratory students who have not yet decided on a major; 3) nondegree-bound students who are enrolled in classes for purposes other than completing a degree; and 4) graduate students.

**Degree-Bound—Major Decided**

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<tr>
<th>Business</th>
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<td>114 Clinton Hall</td>
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<td>(316) WSU-3245</td>
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<td>107 Corbin Education Center</td>
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<td>(316) WSU-3300</td>
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<td>education.twu.edu/</td>
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<td>100 Wallace Hall</td>
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<td>(316) WSU-3400</td>
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<td><a href="http://www.engr.twu.edu/">www.engr.twu.edu/</a></td>
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</table>

**Degree-Bound—Exploratory and Nondegree-Bound**

**University Advising Center**

115 Grace Wilkie Hall
(316) WSU-3700
www.twu.edu/~uac/

4. Publications and workshops that promote advisor and student development.

5. Referral services that connect students with faculty, staff, and other campus resources.

**Academic Information**

**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. At orientation, students meet with academic advisors, register for classes, obtain a student ID card, learn about campus life opportunities, obtain information regarding career development and cooperative education, and make important connections with WSU faculty, staff, current students, and other new students.

Specially selected student orientation 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, new students entering directly from high school and all first-quarter degree-bound students with fewer than 24 transfer hours are required to attend orientation. Orientation programs specifically designed for each student population are scheduled in advance of the fall and spring semester and Summer Session. Information about orientation and registration is sent by the Office of Admissions to all students who have been admitted to the University.

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

For more information about orientation, contact the Office of Admissions-Orientation, (316) 978-5686.

**Registration**

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

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

Academic Forgiveness
Students who have accumulated a grade point average of less than 2.00 may petition the dean of his or her college and the college 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. 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 non-degree-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 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 advisors in their college of enrollment.

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 half-time teaching assistants are considered full time if they take six or more hours. Graduate students taking all or a majority of courses which carry undergraduate 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. Freshmen and sophomores also may be admitted if they meet the course prerequisites.

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.

Transfers Within the University
Students may transfer from any undergraduate degree-granting college to another 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 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 Disability Services 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 that students enrolled for credit have. Auditors are expected to attend class regularly. The audited course will appear on the transcript with the grade notation of Au.

Grading System
Wichita State grades include A, B, C, D, F, W, Au, Cr, NCr, S, U, I, R, and CrE.
A Distinguished achievement. Credit given; four credit points per semester hour.
B Superior achievement. Credit given; three credit points per semester hour.
C Average achievement. Credit given; two credit points per semester hour.
D Below average achievement. Credit given; one credit point per semester hour.
F Failing work. No credit hours earned toward graduation; zero credit points per semester hour. Counted as a course attempted and completed and included in computation of grade point average.
W Withdrawal from course. No credit given; no credit points. Does not affect grade point average.
Au Audit. No credit given; no credit points. Does not affect grade point average. 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. No credit given; no credit points. See the Catalog section on credit/no credit courses.
S Satisfactory (A, B, or C). Credit given; no credit points assigned.
U Unsatisfactory (D or F). No credit given; no credit points assigned.
I Incomplete. Temporarily recorded as a grade when a student is granted an extension of time to complete course work. Credit is postponed and the course is not included in the student's grade point average until it is completed and a regular letter grade is assigned. An incomplete course must be satisfactorily completed by the end of the next semester in which the student enrolls, summer excluded, or the I reverts automatically to an F. Students may not enroll in the course in which they received the I unless they do not enroll at WSU for one calendar year.

The following conditions govern incompleted:
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, or RI. The R prefix has no evaluative function but is used for information only. The following provisions concern repeats:
1. No course may be attempted more than three times. For this policy a repeat of an audit does not count as an enrollment, but a W counts as an enrollment. Exceptions may be made in writing by the chairperson of a student's major department.
2. Any course may be repeated.
(a) Beginning 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 through Summer 1994. Beginning Fall 1994, see (b).
(b) Beginning with the Fall 1994 semester, for all students, 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 replacement for five (5) different courses during the student's academic career. Grades received in courses taken at another institution may not be used to replace grades in courses taken at WSU.
3. Students may audit the same course any number of times.

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

Courses may not be changed from one status to another—for example, graded to audit—after the enrollment period (through the drop/add week), except through petition to the University's Committee on Admissions and Exceptions.

Other special terms are used in reference to grading, as described below.

Grade Point Average (GPA). The grade point average (also called grade point index) is computed by dividing the total number of credit points by the total number of semester hours completed for which regular letter grades (A, B, C, D, and F) are assigned. The grades Au, W, I, Cr, NCr, S, U, and CrE are always excluded from grade point average computations.
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 F but exclude Au 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 hours of 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 his or her college's Committee on Admissions and Exceptions. If this committee approves a change in grade, the instructor, department chairperson, and dean concerned must be informed by the committee before its recommendation is transmitted to the Registrar's Office and the grade change entered on the student's transcript.

This change of grade policy does not affect the right of the student to appeal to the Court of Student Academic Appeals. However, the court will ordinarily not hear cases involving grades assigned more than one year prior to the time of appeal.

In cases where failing grades have been recorded because a student was unable to withdraw officially, the student may petition the dean of the college for a retroactive withdrawal from all courses in the semester in question. The student must provide verifiable evidence of the causes for failing to withdraw properly. If the petition is granted, the grades are changed to W through the usual 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.

This change of grade policy 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, F, or F) and if they have below a 2.000 GPA, they may file a request with the dean of the student's 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 2.000 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 Wichi-
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.

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.).

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.

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.

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 3.250 and a grade point average of at least 3.000 the previous semester may be granted several privileges:

1. They may be exempt from regulations governing the maximum number of hours allowed students during a semester.

2. They 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 3.000 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 advisor, 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 welcomes students who are highly motivated and well-prepared. The program offers seminars, honors colloquia, and honors sections of regularly scheduled courses. Each course is limited to 25 or fewer students. The program also extends opportunities for independent study and sponsors academic enrichment activities such as lectures, field trips, and participation in
regional and national honors organizations.

The program promotes academic excellence at the undergraduate level by offering a challenging honors track within the University’s General Education Program, opportunities to earn academic distinction in a student’s departmental major, and various support services. The honors curriculum features small classes, experienced, highly committed faculty, and an approach to study that emphasizes participatory over passive learning. Support services provided by the program include academic advising and counseling and facilities where students can study, meet with friends, or just relax. The student-led Emory Lindquist Honors Society sponsors a variety of academic and non-academic activities.

Broad program policy is established by the Faculty Honors Committee and is subject to approval by the vice president for academic affairs. The honors director, in conjunction with the student Honors Executive Council, makes policy recommendations and sponsors student activities.

Generally, freshmen are admitted to the program if their composite score on the Enhanced American College Test (ACT) is 26 or higher, or if their high school grade point average is 3.500 or higher 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 in university-level studies and if they satisfy other transfer and admission criteria established by the program. Students who satisfy the minimum grade point average requirements but who are not members of the program may enroll in honors courses if they have the permission of the honors director. To be admitted to the program, a student needs to submit an Honors Program Application and meet with a program representative.

Students in the Emory Lindquist Honors Program are expected to remain in good standing by maintaining at least a 3.250 grade point average overall, a 3.000 grade point average in honors course work, and by making regular progress toward completion of the honors curriculum. Students whose performance falls below these expectations will be placed on probation with the honors program.

Probation

A student whose overall or honors grade point average falls below program requirements will be put on probation for the next semester of enrollment.

A student will be removed from probation if grade point requirements are satisfied for work taken during the next semester of enrollment.

In the semester following that, the student’s overall and honors grade point averages need to satisfy program requirements or the student will be dismissed from the program. Students may appeal dismissal to the Faculty Honors Committee by demonstrating compelling reasons why they should be permitted to continue as an honors student.

Normal Progress

Normal progress towards completion of the honors curriculum is defined as follows:

- complete one seminar within the first 15 credit hours at WSU
- complete two seminars within the first 30 credit hours at WSU
- complete three seminars within the first 45 credit hours at WSU
- submit a Senior Project Study Proposal approved by the major department after achieving senior status.

Graduation Requirements

To graduate with the notation “Honors Program Graduate” on his or her transcript, a student must satisfy the following requirements:

- complete the required honors curriculum
- achieve an overall grade point average of at least 3.250
- achieve a grade point average of at least 3.250 in all honors courses.

Graduation Honors

In addition to recognition awarded by the University to all students achieving outstanding academic records, honors program graduates are eligible for additional recognition.

Students who satisfy honors graduation requirements receive the notation “Honors Program Graduate” on their transcripts and are recognized at Commencement.

The highest ranked honors program graduates each year are named Emory Lindquist Scholars and are recognized at Commencement.

With departmental approval, honors program participants completing a senior project earn departmental honors at graduation.

Honors Curriculum

Adopted in 1996, the honors curriculum offers students an honors track for completing University general education requirements. A student is also required to complete an approved senior project in their major department.

Freshman/Sophomore Seminars. In each of their first three semesters at the University, honors students substitute an honors seminar for one of their required general education distribution courses. Enrollment in seminars is limited to 15 students.

Seminars are offered in fine arts, humanities, social and behavioral sciences, and natural sciences and mathematics. Each seminar has a specific topic.

In honors seminars students can expect to work closely with fellow students and the professor. Seminars are designed to stimulate learning by introducing students to basic questions in various fields of study, the methods of inquiry developed to deal with these questions, and the connections between different branches of knowledge. Many seminars are interdisciplinary. Seminars emphasize the development of learning skills, including writing, oral communication, library research, and laboratory methods.

Honors Upper-Division Courses. Students must also complete two upper-division courses for honors credit. These may be honors sections of further studies or issues and perspectives courses in the University’s General Education Program, courses in the student’s major, elective courses, or a combination of these.

Senior Project. To complete honors requirements, a student designs a six-hour senior project in consultation with his or her major department. A senior project may take the form of a senior paper, laboratory research project, independent study project, internship, departmental seminar, other appropriate studies, or a combination of these. Each department determines what is appropriate for its majors. Students submit a Senior Project Study Proposal approved by their major department when they become seniors.

Additional Honors Courses. Additional honors courses are offered regularly, including honors sections of English composition, oral communication, and calculus. Students are strongly encouraged to enroll in these sections as they complete other University requirements. Grades earned in these classes are included in a student’s honors grade point average.

Honors Option. Students may take regular courses for honors credit with the permission of the course instructor and the Honors Program. Generally such honors option arrangements involve doing some
additional work connected with the course. Specific arrangements are worked out between student and instructor and submitted to the honors office on an Honors Option Contract. Failure to complete an honors option carries no penalty.

Lower-Division Courses

>104. Seminar I: Fine Arts. (3-4). General education introductory course. Topics vary. Prerequisite: Beginning honors student or permission of honors director.

>105. Seminar I: Humanities. (3-4). General education introductory course. Topics vary. Prerequisite: Beginning honors student or permission of honors director.

>106. Seminar I: Social and Behavioral Sciences. (3-4). General education introductory course. Topics vary. Prerequisite: Beginning honors student or permission of honors director.

>107. Seminar I: Mathematics and Natural Sciences. (3-5). 1-3R; 1-2L. General education introductory course. Topics vary. Prerequisite: Beginning honors student or permission of honors director.

>150. Seminar II: Fine Arts. (3-4). General education introductory course. Topics vary. Prerequisites: Hrs. 104 and six additional credit hours, or permission of honors director.

>151. Seminar II: Humanities. (3-4). General education introductory course. Topics vary. Prerequisites: Hrs. 105 and six additional credit hours, or permission of honors director.

>152. Seminar II: Social and Behavioral Sciences. (3-4). General education introductory course. Topics vary. Prerequisites: Hrs. 106 and six additional credit hours, or permission of honors director.

>153. Seminar II: Mathematics and Natural Sciences. (3-5). 1-3R; 1-2L. General education introductory course. Topics vary. Prerequisites: Hrs. 107 and six additional credit hours, or permission of honors director.

Upper-Division Courses

>204. Seminar III: Fine Arts. (3-4). General education issues and perspectives course. Topics vary. Prerequisites: Hrs. 104 and 150 and twelve additional credit hours, or permission of honors director.

>205. Seminar III: Humanities. (3-4). General education issues and perspectives course. Topics vary. Prerequisites: Hrs. 105 and 151 and twelve additional credit hours, or permission of honors director.

>206. Seminar III: Social and Behavioral Sciences. (3-4). General education issues and perspectives course. Topics vary. Prerequisites: Hrs. 106 and 152 and twelve additional credit hours, or permission of honors director.

>207. Seminar III: Mathematics and Natural Sciences. (3-5). 1-3R; 1-2L. General education issues and perspectives course. Topics vary. Prerequisites: Hrs. 107 and 153 and twelve additional credit hours, or permission of honors director.

310. Honors Tutorial. (1). Repeatable to a maximum of three hours of credit.

>400. Honors Seminar. (1-4). General education further study course.

410. Independent Study. (1-4). Repeatable to a maximum of six hours of credit.

>420Q. Seminar in Humanities. (3-4). General education issues and perspectives course. Topics vary. Prerequisites: Hrs. 205 or permission of honors director.

>430Q. Seminar in Social and Behavioral Sciences. (3-4). General education issues and perspectives course. Topics vary. Prerequisites: Hrs. 206 or permission of honors director.

>440Q. Seminar in Natural Sciences and Mathematics. (3-5). General education issues and perspectives course. Topics vary. Prerequisites: Hrs. 204 or permission of honors director.

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.

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 cumulative and Wichita State grade point average of 3.900. The minimum standard for graduating magna cum laude is a cumulative and Wichita State grade point average of 3.850. The minimum standard for graduating cum laude is a cumulative and Wichita State grade point average of 3.250.

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 advisor, obtain drop slip(s) for every course (line number), and have their advisor 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 appropriate 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 Courses.

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

Administrative Withdrawal

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

1. The student’s class attendance is so poor that in the instructor’s opinion full credit cannot be derived from the course.
2. The student fails to complete successfully all prerequisites for those courses in which the student is enrolled.
3. The student violates the provisions of the student’s responsibilities statements in the University Catalog. (See the Student Responsibility section of the Catalog.)
4. The student does not comply with the terms of a provisional admission.
5. The student has unmet financial obligations to the University.

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

Academic Progress Reports

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

Midterm Down Reports. At midsemester, a Down Report may be sent to students doing below average work, and to their academic advisor, as an indication that their grades need to be improved. Students should meet with their instructor and/or college advisor 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 but below this level for one semester may receive a letter from the dean of their college warning of the consequences of continued substandard performance. Such warnings do not appear on a student’s transcript.

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 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 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 believe 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.

The student must file an appeal within one semester after the grade is assigned (excluding summer). The court reserves the right, in exceptional circumstances, to suspend this rule.

Any student may use the appeal procedure. Forms are available in the Division of Student Affairs, 105 Grace Wilkie Hall. The general procedure is explained to students when they pick up the form.

General Education Program

The General Education Program seeks to provide each student with a body of knowledge that is both 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; and 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 Studies courses in the disciplines, and Issues and Perspectives courses.

Faculty and advisors at WSU believe that a well planned General Education Program will help all students accomplish the following:

- communicate clearly and effectively;
- analyze and assess information utilizing a variety of information and people resources;
- problem solve and make excellent decisions in personal, career, and community arenas;
- motivate people and develop collaborative work environments;
- articulate issues, options, and consequences of decisions;
- utilize technology to solve problems and facilitate tasks;
- function by examined ethical standards and principles;
- appreciate and apply understandings of the fine arts, humanities, social sciences, natural sciences, and mathematics to life, career, and community challenges;
- understand diverse cultures and relate well with individuals from these cultures; and
- actively engage in the betterment of the community in which they live.

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 or after 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, 112, 131 or another math class for which one of these is a prerequisite

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 two of the following Humanities disciplines:

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General Education Requirements

<table>
<thead>
<tr>
<th>Basic Skills to be completed with a C or better (12 hours minimum)</th>
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</thead>
<tbody>
<tr>
<td>English Composition I and II</td>
</tr>
<tr>
<td>Oral Communication</td>
</tr>
<tr>
<td>Contemporary Mathematics, College Algebra, Precalculus Mathematics or another math class for which one of these is a prerequisite</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Fine Arts and Humanities (12 hours minimum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Introductory course: Art History, Dance, Musicology-Composition and Theater</td>
</tr>
<tr>
<td>Two Introductory courses, one chosen from each of two of the following disciplines:</td>
</tr>
<tr>
<td>Communication*, English*, History, Linguistics, Modern and Classical Languages and Literature, Philosophy, Religion, Women's Studies</td>
</tr>
<tr>
<td>One Further Studies course* in either Fine Arts or Humanities</td>
</tr>
<tr>
<td>or An Issues and Perspectives** course in Fine Arts or Humanities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social and Behavioral Sciences (9 hours minimum)</th>
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</thead>
<tbody>
<tr>
<td>Two Introductory courses, one chosen from each of two of the following disciplines: Anthropology, Economics, Geography, Minority Studies, Political Science, Psychology, Sociology</td>
</tr>
<tr>
<td>One Further Studies course* in one of the Social and Behavioral Sciences</td>
</tr>
<tr>
<td>or An Issues and Perspectives** course in the Social and Behavioral Sciences</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mathematics and Natural Sciences (9 hours minimum)</th>
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</thead>
<tbody>
<tr>
<td>Two Introductory courses, one chosen from each of two of the following disciplines: Biology, Chemistry, Computer Science*, Geology, Mathematics/Statistics*, Physics</td>
</tr>
<tr>
<td>(At least one of these courses must be chosen from Biology, Chemistry, Geology or Physics.)</td>
</tr>
<tr>
<td>One Further Studies course* in one of the Mathematics/Natural Sciences disciplines</td>
</tr>
<tr>
<td>or An Issues and Perspectives** course in the Mathematics/Natural Sciences</td>
</tr>
</tbody>
</table>

* Nonprofessional courses only, and excluding Basic Skills.
** Students must take one Issues and Perspectives course; no more than two Issues and Perspectives courses will count for general education credit.

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Communication*, English*, History, Linguistics, Modern and Classical Languages and Literature, Philosophy, Religion, and Women’s Studies.

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

At least one of these courses must be chosen from Biology, Chemistry, Geology, or Physics.

III. Three Further Studies courses, distributed as follows:

A. A Further Studies (but not Introductory) course* in one of either the Fine Arts or the Humanities disciplines chosen for an Introductory course:

or

An Issues and Perspectives** course in the Fine Arts or the Humanities.

B. A Further Studies (but not Introductory) course* in one of either the Social and Behavioral Sciences disciplines chosen for an Introductory course:

or

An Issues and Perspectives** course in the Social and Behavioral Sciences.

C. A Further Studies (but not Introductory) course* in one of either the Mathematics/Natural Sciences disciplines chosen for an Introductory course:

or

An Issues and Perspectives** course in the Mathematics/Natural Sciences.

* Non-professional courses only, and excluding Basic Skills.
** Students must take one Issues and Perspectives course; no more than two Issues and Perspectives courses will count for general education credit.

General education courses must be at least three credit hours and from the approved general education course list.

All courses which qualify for general education credit have a caret (>) prefix in the **Catalog**.

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.)

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### Introductory Courses

Introductory courses in the disciplines which qualify for general education credit are identified with a caret (>) prefix in the course listings for departments/programs/disciplines in the Undergraduate Catalog.

#### 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
- Hnrs. 104, Seminar I: Fine Arts
- Hnrs. 104A, Listening to Jazz
- Mus. C. 160G, Heritage of Western Music
- Mus. C. 162G, World Music
- Thea. 143G, Art of the Theater

#### Humanities Courses

- Comm. 190G, Introduction to Human Communication
- Engl. 230G, Exploring Literature
- Engl. 232G, Themes in American Literature
- Fren. 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
- Hnrs. 105, Seminar I: Humanities
- Hnrs. 105A, Plato and the Republic
- Hnrs. 105B, City in Cinema
- Latin 223, Intermediate Latin (P)
- Ling. 151G, The Nature of Language
- Phil. 100G, Meaning of Philosophy
- Phil. 125Q, Introductory Logic
- Phil. 144Q, Moral Issues
- Rel. 110Q, Old Testament
- Rel. 115Q, New Testament
- Russ. 210Q, Intermediate Russian (P)
- Span. 210Q, Intermediate Spanish (P)
- Wom. S. 190G, The American Woman
- Wom. S. 287Q, Women in Society: Social Issues

#### Social and Behavioral Sciences Courses

- Anthr. 100G, Anthropology of Modern (American) Life
- Anthr. 101Q, Biological Anthropology
- Anthr. 102Q, Introduction to Cultural Anthropology
- Anthr. 103, Introduction to Archaeology
- Econ. 201Q, Principles of Macroeconomics
- Geog. 125Q, Principles of Human Geography
- Geog. 210Q, World Geography
- Hnrs. 106, Seminar I: Social and Behavioral Sciences
- Hnrs. 106A, City Politics
- Hnrs. 106B, Architecture of the Ancient City
- Min. S. 100Q, Introduction to Minority Studies
- Min. S. 210Q, Fundamentals of Cross-Cultural Communication
- Pol. S. 121Q, American Politics
- Pol. S. 226Q, Comparative Politics
- Psy. 111Q, General Psychology
- Soc. 111Q, Introduction to Sociology

#### Mathematics and Natural Sciences Courses

- Biol. 104Q, Introducing Biology
- Biol. 106G, The Human Organism
- Biol. 107G, The Human Organism Laboratory
- Biol. 203Q, Introduction to Organismal Biology
- Chem. 103Q, General Chemistry
- Chem. 111Q, General Chemistry
- CS 105, Introduction to Computers
- CS 210, Introduction to Computer Science
- Geog. 201, Physical Geography
- Geol. 102, Earth Science and the Environment
- Geol. 111Q, General Geology
- Hnrs. 107, Seminar I: Mathematics and Natural Sciences
- Hnrs. 107A, Frontiers in Biomedical Sciences
- Math. 144, Business Calculus (P)
- Math. 242Q, Calculus I (P)
- Phys. 111Q, Introductory Physics
- Phys. 131, Introductory Physics (for Health Sciences)
- Phys. 195C, Introduction to Modern Astronomy
- Phys. 213Q, General College Physics (without calculus)
- Phys. 313Q, University Physics (with calculus)
- Phys. 315Q, University Physics Lab I
- Phys. 316Q, University Physics Lab I
- Stat. 370, Elementary Statistics (P)

### Further Studies Courses

Further Studies courses in the disciplines which qualify for general education credit are identified with a caret (>) prefix in the course listings for departments/programs/disciplines in the Undergraduate Catalog.

#### Fine Arts Courses

- Fine Arts 301, Introduction to Entrepreneurship in the Fine Arts
- Art H. 223, Northern Renaissance
- Art H. 322, Medieval Art
Comm. 302, Interpersonal
Comm. 350, Art of the Ancient Near East and Egypt
Art H. 421Q, Art of Ancient Greece
Art H. 422, Roman Art and Architecture
Art H. 521Q, Italian Renaissance
Art H. 522, Southern Baroque
Art H. 523, 18th and 19th Century European Art
Art H. 524, 18th and 19th Century American Art
Art H. 525, 20th Century Art before 1945
Art H. 526, Art since 1945
Art H. 530, The Art of Classical Greece
Art H. 531, The Art of Hellenistic Greece
Art H. 535, Northern Renaissance
Art H. 536, Northern Baroque
Dance 225Q, Dance History I
Dance 315, Music for Dance (P)
Fine Arts 301, Introduction to Entrepreneurship in the Fine Arts
Fine Arts 481, Cooperative Education
Mus. C. 161, Music through the Ages
Mus. C. 165, The Blues: Art and Culture
Mus. C. 325, Periods of Music History (P)
Mus. C. 334Q, History of Music I (P)
Mus. C. 335Q, History of Music II (P)
Mus. C. 346Q, Styles of Jazz
Mus. C. 493Q, American Popular Music
Mus. C. 616, Symphonic Literature
Mus. C. 623, Opera Literature
Thea. 221Q, Oral Interpretation
Thea. 241, Improvisation and Theatre Games
Thea. 243Q, Acting I
Thea. 450, Contemporary Theater and Drama (P)
Thea. 516, Playwriting I (P)
Thea. 517, Playwriting II (P)
Thea. 623Q, Development of the Theater I
Thea. 624Q, Development of the Theater II
Thea. 542, Advanced Acting

Humanities Courses
Comm. 221Q, Oral Interpretation
Comm. 302, Interpersonal Communication
Comm. 311, Persuasive Speaking
Comm. 312Q, Nonverbal Communication (P)
Comm. 313Q, Argumentation and Advocacy
Comm. 430, Communication Research and Inquiry (P)
Comm. 535, Communication Analysis and Criticism (P)
Comm. 631, Historical and Theoretical Issues in Communication (P)
Engl. 252Q, Modern American Writers
Engl. 254Q, Modern British Literature
Engl. 272Q, Origins of Western Literature
Engl. 275Q, Studies in Popular Literature
Engl. 290Q, The Bible as Literature
Engl. 315, Introduction to English Linguistics
Engl. 320Q, The Nature of Drama
Engl. 330Q, The Nature of Fiction
Engl. 340Q, Major Plays of Shakespeare
Engl. 345, Studies in Comparative Literature
Engl. 360, Major British Writers I
Engl. 361, Major British Writers II
Engl. 362Q, American Writers of the 19th Century
Engl. 365, African-American Literature
Engl. 400G, The Literary Imagination
Fren. 223, Intermediate French Readings I (P)
Fren. 300, Intermediate French Readings II (P)
Germ. 223, Intermediate German I (P)
Germ. 344Q, Intermediate German II (P)
Greek 224, Intermediate Greek (P)
Hist. 311, History of Latin America I
Hist. 312, History of Latin America II
Hist. 313, English History I
Hist. 314, English History II
Hist. 317, The Holocaust
Hist. 320, Russian History Survey
Hist. 321, The Viet Nam Conflict
Hist. 322, Ethnic America, ca 1500-1924
Hist. 333, Ethnic America in the 20th Century
Hist. 340, World War II
Hist. 357, Women in the Ancient World
Hist. 359, The Greek World
Hist. 362, The Roman World
Hist. 501, The American Colonies
Hist. 502, The American Revolution and Early Republic
Hist. 503, The Age of Jefferson and Jackson
Hist. 504, Civil War and Reconstruction
Hist. 505, America's Gilded Age
Hist. 507, U.S. History: 1900 to 1945
Hist. 508, U.S. History: 1945 to present
Hist. 511, Women in Early America
Hist. 512, Women and Reform in America
Hist. 516, History of American Business
Hist. 517, U.S. Constitutional History I
Hist. 518, U.S. Constitutional History II
Hist. 521, U.S. Diplomatic History I
Hist. 522, U.S. Diplomatic History II
Hist. 525, American Military History
Hist. 528, The History of Wichita
Hist. 530, American Women in History
Hist. 531, American Environmental History
Hist. 532, Women in Ethnic America
Hist. 533, The American City
Hist. 534, History of the Old South
Hist. 535Q, History of Kansas
Hist. 536, Survey of American Indian History
Hist. 537, The Trans-Mississippi West
Hist. 538, The American West in the 20th Century
Hist. 541, Modern France
Hist. 545Q, The World Since 1945
Hist. 553, History of Mexico
Hist. 554, The Ancient Near East
Hist. 559Q, Greek History I
Hist. 560, Greek History II
Hist. 562, Roman History I
Hist. 563, Roman History II
Hist. 566, Medieval History I
Hist. 567, Medieval History II
Hist. 575, The Italian Renaissance
Hist. 576, The Reformation
Hist. 581, Europe 1815-1870
Hist. 582, Europe 1870-1945
Hist. 583, Europe 1914-1945
Hist. 592, History of the Soviet Union
Hist. 593, The Former Soviet Union
Hist. 613, European Diplomatic History
Latin 224, Intermediate Latin (P)
Phil. 301, Language and Philosophy
Phil. 303Q, 19th Century Philosophy
Phil. 308, Philosophy of Economics
Phil. 311Q, Philosophy of Law
Phil. 313Q, Political Philosophy
Phil. 315, Late Modern Philosophy
Phil. 320, Philosophy of Science
Phil. 322Q, Early Modern Philosophy
Phil. 327, Philosophy of Health Care
Phil. 331Q, Ancient Greek Philosophy
Phil. 338, Philosophy of Feminism
Phil. 346Q, Philosophy of Religion
Phil. 354, Ethics and Computers
Phil. 360, Ethical Theory (P)
Phil. 375, Philosophy of the Arts
Rel. 131G, Traditional Religion and the Modern World
Russ. 224, Intermediate Russian (P)
Russ. 300, Intermediate Russian Readings (P)
Span. 223, Selected Spanish Readings (P)
Span. 300, Intermediate Spanish Readings (P)
Wom. S. 361, Women and Work
Wom. S. 367Q, Women in Society: Cultural Images
Wom. S. 391, Women's Global Issues
Wom. S. 511, Women in Early America, 1600-1830
Wom. S. 512, Women and Reform in America, 1830 to present
Wom. S. 532, Women in Ethnic America

Social and Behavioral Sciences Courses
Anthr. 200, Intercultural Relations
Anthr. 213, American Popular Culture
Anthr. 303Q, World Cultures (P)
Anthr. 305Q, World Archaeology
Anthr. 307, Peoples of Africa
Anthr. 312, Asia Pacific Cultures
Anthr. 313, Archaeology of East Asia
Anthr. 318, Psychological Anthropology
Anthr. 327, Magic, Witchcraft, and Religion
Anthr. 335, Archaeology of North America
Anthr. 344, Ecological Anthropology
Anthr. 356, Human Variability and Adaptation (P)
Anthr. 361, Law, Politics, and Society
Anthr. 388, Cognitive Anthropology
Anthr. 506, Peoples of the Pacific
Anthr. 508Q, Ancient Civilizations of the Americas (P)
Anthr. 511, The Indians of North America (P)
Anthr. 514, Anthropology of Aging (P)
Anthr. 515Q, China
Anthr. 516Q, Japan: People and Culture
Anthr. 519, Applying Anthropology (P)
Anthr. 522Q, Art and Culture (P)
Anthr. 526, Social Organization (P)
Anthr. 528, Medical Anthropology
Anthr. 542, Women in Other Cultures
Anthr. 555, Paleoanthropology and Human Paleontology (P)
Anthr. 556, Biology of Human Populations (P)
Anthr. 611, Southwestern Archaeology (P)
Anthr. 872, Internship in Anthropology (P)
CJ 351Q, The Victim in Criminal Justice
CJ 355, Special Populations in the Criminal Justice System
CJ 394, Courts and Judicial Systems
CJ 453, Crime Prevention
CJ 593, Criminal Causation and Criminal Justice
CJ 652, Juvenile Justice and Social Policy
Econ. 202Q, Principles of Micro-economics
Geog. 235, Meteorology (P)
Geog. 530, Geography of Latin America
Geog. 542, Geography of Europe
Min. S. 100Q, Introduction to Minority Studies
Min. S. 210, Fundamentals of Cross-Cultural Communications
Min. S. 240Q, Minority Women in America
Min. S. 251Q, Women and Minorities in the Criminal Justice System
Min. S. 260, Prominent Minorities in the Making of America
Min. S. 330, Ethnic America, ca 1500-1924
Min. S. 331, The Black Family
Min. S. 332, The Native American
Min. S. 333, Issues in the Chicano Community
Min. S. 334, Ethnic America in the 20th Century
Min. S. 350D, Dealing with Diversity
Min. S. 350F, Understanding Africa
Min. S. 350L, Osage Cultural Workshop
Min. S. 390, Asian-American Contemporary Issues
Min. S. 410, The African American Male
Min. S. 512, Issues in Minority Aging
Min. S. 532, Women in Ethnic America
Min. S. 548, Research in Minority Communities
Pol. S. 315, The Presidency
Pol. S. 316Q, The Congress
Pol. S. 317, Urban Politics
Pol. S. 318, Political Parties
Pol. S. 319, State Government
Pol. S. 320, Politics of Developing Areas
Pol. S. 335Q, International Politics and Institutions
Pol. S. 336, International Politics and Institutions
Pol. S. 337, Force and Intervention
Pol. S. 345, Classical Medieval Political Theory
Pol. S. 358Q, American Political Thought
Pol. S. 390, Special Topics in Political Science
Pol. S. 444, Modern Political Theory
Pol. S. 523Q, Government and Politics in Latin America
Pol. S. 524, Politics of Modern China
Pol. S. 533, Police Development in Foreign Relations
Pol. S. 534, Problems in Foreign Policy
Pol. S. 547, Contemporary Political Theory
Pol. S. 551, Public Law
Pol. S. 552Q, Civil Liberties
Psy. 302, Psychology of Learning (P)
Psy. 304Q, Social Psychology (P)
Psy. 316, Industrial Psychology (P)
Psy. 322, Cognitive Psychology (P)
Psy. 324Q, Psychology of Personality (P)
Psy. 332, Psychology of Perception (P)
Psy. 334Q, Developmental Psychology (P)
Psy. 336, Alcohol Use and Abuse (P)
Psy. 342Q, Psychology of Motivation (P)
Psy. 402, Psychology of Consciousness (P)
Psy. 404, Psychology of Aging (P)
Psy. 406, Introduction to Community Psychology (P)
Psy. 414, Child Psychology (P)
Psy. 512, Primatology (P)
Psy. 516, Drugs and Human Behavior (P)
Psy. 522, Biological Psychology (P)
Psy. 532, Psycholinguistics (P)
Soc. 301, Computers and Society
Soc. 315Q, Courtship and Marriage
Soc. 320Q, Contemporary Social Problems
Soc. 322, Deviant Behavior (P)
Soc. 325, Parenting
Soc. 330Q, Social Inequality (P)
Soc. 334, Sociology of the Community (P)
Soc. 338Q, Health and Lifestyle (P)
Soc. 350, Social Interaction (P)
Soc. 513, Sociology of Aging (P)
Soc. 515, Sociology of the Family (P)
Soc. 516, Sociology of Sex Roles (P)
Soc. 517, Intimate Relationships (P)
Soc. 523, Sociology of Law (P)
Soc. 526, Political Sociology (P)
Soc. 527, Violence and Social Change (P)
Soc. 534, Urban Sociology (P)
Soc. 537, The Social Consequences of Disability (P)
Soc. 538, Medical Sociology (P)
Soc. 539, Juvenile Delinquency (P)
Soc. 540, Criminology (P)

Mathematics and Natural Sciences Courses

Biol. 509G, Foundations of Human Heredity
Chem. 112Q, General and Inorganic Chemistry (P)
Chem. 514, Inorganic Chemistry (P)
Chem. 523, Analytical Chemistry (P)
Chem. 531, Organic Chemistry (P)
Chem. 533, Elementary Organic Chemistry (P)
Chem. 545, Physical Chemistry (P)
Chem. 661, Introductory Biochemistry (P)
CS 300, Data Structures and Algorithms
Geol. 302Q, Earth and Space Sciences
Geol. 310, Oceanography
Geol. 312, Historical Geology and Stratigraphy (P)
Geol. 320, Mineralogy (P)
Geol. 430, Tropical Marine Environments
Geol. 541, Plate Tectonics (P)
Geol. 560, Geomorphology and Land Use (P)
Geol. 570, Paleontology (P)
Geol. 574, Special Studies in Paleontology (P)
Math. 243Q, Calculus II (P)
Phys. 214Q, General College Physics II (P)
Phys. 314Q, University Physics II (P)
Phys. 395C, Solar System Astronomy (P)
Stat. 460, Elementary Probability and Statistics (P)
Stat. 471, Probabilistic Models and Statistical Methods (P)
Stat. 571, Statistical Methods I (P)
Stat. 572, Statistical Methods II (P)
Stat. 574, Elementary Survey Sampling (P)
Stat. 576, Applied Nonparametric Statistical Methods (P)

Issues and Perspectives Courses

Issues and Perspectives courses in the disciplines which qualify for general education credit are identified with a caret (>) prefix in the course listings for departments/programs/disciplines in the Undergraduate Catalog.

Fine Arts/Humanities Courses

Art H. 326, Architecture
Germ. 341, Germany in the European Context
Hist. 308, Lost Civilizations
Hist. 330G, The Americans
Hist. 420Q, Seminar in Humanities
LAS 222Q, East Asia
LAS 300G, Global Issues
Mus. C. 310, Interrelated Arts (P)
Phil. 300G, Science and the Modern World
Phil. 302, Values and the Modern World
Thea. 385, Theatre as a Mirror of Today's America
Wom. S. 541, Women, Children, and Poverty (P)
Wom. S. 580N, Gender, Race, and Knowledge

Social and Behavioral Sciences Courses
Econ. 250, Entrepreneurship and Personal Enterprise
Econ. 280, Economics of Social Issues
IB 390D, International Business Issues and Perspectives
LAS 222Q, East Asia
LAS 300G, Peace and War
Pol. S. 232Q, Basic Ideas in Political Theory
Psy. 416Q, Psychology and Problems of Society (P)
Psy. 534, Psychology of Women (P)
Soc. 316, The American Male
Soc. 336, Work in Modern Society

Mathematics and Natural Sciences 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)
Phys. 320, Scientific Thinking

(P) designates courses with prerequisites

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 credit. These general education requirements are stipulated in previous Undergraduate Catalogs.

Requirements for Graduation
The University's minimum graduation requirements for baccalaureate degrees 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. Graduate students should consult the Graduate Bulletin.

Students 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. In order to graduate in eight semesters, a student must take an average of 16 credit hours per semester.

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.

Students who are eligible to graduate but who still have unpaid tuition balances will not graduate until those fees are paid.

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 two commencements a year. Summer and fall graduates are invited to attend December commencement. Spring graduates attend individual college commencement ceremonies in May.

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

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

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

Students selecting the parallel option are required to carry a minimum of six hours of course work in addition to their co-op course. Students may enroll in parallel 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) 978-3688. Students are required to complete an application for admission, attend orientation, and schedule an interview with the appropriate co-op coordinator.

**Division of Academic Outreach/Industrial Relations**

One of the four basic objectives of Wichita State is to provide continuing education opportunities. The Division of Academic Outreach'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 the teaching mission of WSU's degree-granting colleges by helping to arrange credit courses and academic support services at off-campus centers in Wichita and Sedgwick County, particularly at WSU's three service centers Downtown, in west Wichita, and in south Wichita.

2. Cooperate with the Media Resources Center to provide regular WSU credit courses using electronic delivery systems such as cable television, video, or 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, other area institutions, and the professions to provide specialized credit and noncredit classes, degree completion programs, conferences, and seminars to the community, including contracted customized training for area employers.

4. Supervise and coordinate internship and cooperative education opportunities for students.

5. Coordinate reception of national teleconferences to make distant expertise and resources available to the University and community.

6. 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, criminal justice, aerospace engineering, anthropology, art education, biological sciences, business, business administration, chemistry, communication, communicative disorders and sciences, computer science, counseling, creative writing, curriculum and instruction, economics, educational administration and supervision, educational psychology, electrical engineering, engineering management, English, geology, gerontology, history, industrial engineering, environmental science, liberal studies, mathematics, mechanical engineering, music, music education, nursing, physical education, physical therapy, physics, political science, public administration, public health, social work, sociology, Spanish, special education, sports administration, and studio arts. The Specialist in Education, a degree beyond the master's level, is awarded 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.

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

**National Student Exchange**

The National Student Exchange (NSE) is an exciting opportunity to attend one of nearly 160 colleges and universities across the country while paying your regular WSU tuition. Costs of room, board, and books are paid at the host campus. You will continue to have your financial aid information sent to WSU. Any financial aid and scholarships will still be applicable; your aid will be applied to your tuition bill at WSU and the balance will be sent to you at your home campus.

The program is open to undergraduate, domestic students who are (1) enrolled in at least 9 hours at WSU at the time of application to NSE as well as in the semester prior to exchange and (2) have a 2.500 cumulative grade point average at the time of application and at completion of the semester prior to exchange. You should apply for the program during the fall before the year you want to exchange.

Prior to the exchange, you and your academic advisor will complete an advising agreement. You will receive full credit for work satisfactorily completed on exchange.

For more information, call the NSE coordinator, (316) 978-3085.

**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: University Registrar, Wichita State University, 1845 Fairmount, Wichita, Kansas 67260-0058. (316) 978-3055.

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 floral ecology of the Rocky Mountains, the Osage culture in Oklahoma, or a wilderness experience in a national park. A list of the workshops being offered each summer is included in the Summer 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 Université d'Orleans. Orleans also offers a four-week summer program in which students may earn up to six hours of credit transferable to WSU. Students pay their fees directly to Orleans when enrolled in the summer program. For more information, contact the Department of Modern and Classical Languages and Literatures, 305 Jardine Hall.

Summer Program 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 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.

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 less than one-third 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 from the State of Kansas.

Comprehensive Fee Schedule
Fees given in this Catalog were proposed for 1999-2000 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>Fee Description</th>
<th>Resident</th>
<th>Nonresident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate tuition*</td>
<td>$65.85</td>
<td>$280.95</td>
</tr>
<tr>
<td>Student fee*—all students</td>
<td>$18.75</td>
<td>$18.75</td>
</tr>
<tr>
<td>Registration fee—all students</td>
<td>$17.00</td>
<td>$17.00</td>
</tr>
<tr>
<td>Graduate tuition*</td>
<td>$98.25</td>
<td>$328.10</td>
</tr>
</tbody>
</table>

*Tuition and fees are for the Fall and Spring semesters and Summer Session. Tuition includes $1 per credit hour for technology equipment.

The student fee, required of all students enrolled on the Wichita State campus, supports the Educational Opportunity Fund ($4.40 per credit hour), student union, athletics, Heskett Center, bowling program, Student Health Services, forensics, Student Government Association, student publications, and other student activities.

Workshop and Off-Campus Fees
On-campus credit workshops cost $94.10 per credit hour, plus a $17 registration fee per semester. A specific course fee of $84 (undergraduate) or $124 (graduate) per credit hour is assessed for off-campus regular enrollment and continuing education credit courses or workshops. Non-credit workshop fees are based on 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 or College Fees
Special departmental fees are assessed 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 for completion of course work.

2. Dance program fee (Dance 201, 210, 301, 310, 401, 410, 501, and 510) — $12 per semester for course

3. Engineering equipment and maintenance fee — $14 per credit hour for engineering courses

4. Geology Field School — actual cost per semester

5. Kinesiology and sport studies (bowling) — $45 per semester

6. Kinesiology and sport studies (bowling, KSS 201B) — $10 per course

7. Kinesiology and sport studies (horsemanship) — $110 per semester

8. Kinesiology and sport studies (scuba diving) — $55 per semester; Physical Education Scuba Trip — $770 per student; Physical Education Advanced Open Water Diving Fee — $159 per student

9. Kinesiology and sport studies (pool/billiards) — $25 per semester

10. Kinesiology and sport studies (ice skating) — $78 per semester

11. Kinesiology and sport studies (water sports) — $125 per semester

12. Kinesiology and sport studies (golf Westside) — $45 per semester

13. Kinesiology and sport studies (safety and marksmanship) — $125 per semester

14. Kinesiology and sport studies (CPR and first aid certification) — $10 per certification

15. College of Health Professions

   Nursing entrance
   test fee — $14/person

   Application fees:
   Dental hygiene — $15/person
   Physical therapist assistant — $20/person
   Physical therapy — $20/person
   Physician assistant — $20/person

   Acceptance fees:
   Dental hygiene* — $100/person
   Medical technology* — $100/person
   Physical therapist assistant* — $100/person
   Physical therapy* — $100/person
   Physician assistant* — $100/person

16. W. Frank Barton School of Business

   Executive MBA — $18,400/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.

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, 711B, and 711C
- Band (Concert)
  - Mus. P. 212B, 412B, and 712B
- University Singers
  - Mus. P. 211F, 411F, and 711F
- Jazz Arts Ensemble
  - Mus. P. 211T, 212T, 411T, 412T, 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:

- Math placement test fee — $4 per student
- Scholarship search fee:
  - Currently enrolled students...$10/person
  - Non-WSU student — $15/person
- Undergraduate admission application fee, initial enrollment — $20/person
- Graduate admission application fee, initial enrollment — $25/person
- Media course fee — $12/credit hour
- English composition placement fee — $4/person
- Installment payment administration fee — $30/person
- Diploma replacement fee — $20/copy
- International undergraduate student application fee — $50/person
- International undergraduate student reapplication fee — $25/person
- Transcript/certification fee (non-enrolled persons) — $5/copy
- Copies of public documents — $0.10/page
- Library fines and lost materials — cost per fine schedule or cost of replacement of material plus a processing fee
- Returned check fee — $15/check
- Career services:
  - Registration fee
    - Students...$20/6 mos.; $25/year
    - Nonstudents...$35/6 mos.; $50/year
- Counseling
  - WSU students and alumni who have graduated in past 2 mos....no charge
  - Family of WSU faculty/staff $20/hour
  - Alumni...$20/hour
  - Community people...$40/hour
- Credential mailings...$3/mailing

Testing
- Campbell Interest
  - Skill Survey — $10/test
- Strong Interest Inventory — $10/test
- Self-Directed Search — $10/test
- Missouri Card Sort — no charge
- Myers-Briggs Type Indicator — $10/test

Parking Fees and Fines

Parking fees will be assessed for each decal as shown below. Parking fines will be assessed as printed in the University's parking regulations subsequent to the annual public hearing on such regulations.

Students: Parking fees will be assessed at the rate of $5.50 per credit hour, per semester and summer session with a cap on the assessment of 10 credit hours or $50.

Faculty and Staff: Parking fees will be assessed per the following sliding salary scale.

<table>
<thead>
<tr>
<th>Salary Scale</th>
<th>Annual Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $14,999</td>
<td>$75</td>
</tr>
<tr>
<td>$15,000-$19,999</td>
<td>$2.00</td>
</tr>
<tr>
<td>$20,000-$29,999</td>
<td>$3.00</td>
</tr>
<tr>
<td>$30,000-$49,999</td>
<td>$4.00</td>
</tr>
<tr>
<td>$50,000-$69,999</td>
<td>$5.00</td>
</tr>
<tr>
<td>&gt; $70,000</td>
<td>$6.00</td>
</tr>
<tr>
<td>Reserved spaces</td>
<td>$15.00</td>
</tr>
<tr>
<td>Family of WSU faculty/staff</td>
<td>$20.00</td>
</tr>
</tbody>
</table>

Department Cost-Recovery Fees

All departmental charges for specific goods and services (i.e., photocopy, optional instructional materials, placement office user fees, building use fees, optional attendance summer orientation sessions, academic transcripts, etc.) are set at amounts that approximate actual costs.

Period of Payment

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

Unpaid Fees

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

Students who are eligible to graduate but who still have unpaid tuition balances will not graduate until those fees are paid.
Assessment and Collection

The University Controller is responsible for the assessment and collection of fees. The Controller, the associate dean of the College of Engineering, a faculty member from the W. Frank Barton School of Business, and the Vice President for Student Affairs constitute the Board of Appeals for students who believe their residency status has been incorrectly assessed. The decision of this committee is final. Forms to initiate this process are available in the Registrar's office.

Housing and Residence Life Fees

Housing rates at Wichita State University vary with the choice of facility and meal plan. Housing costs for Fairmount Towers, Brennan Hall, and Wheatshocker Apartments are listed below. The listed rates do not include a $35 non-refundable application fee for non-continuous contractors. An installment payment plan is available for Brennan Hall and Fairmount Towers for an additional fee of $5 per payment ($40 for the year). Wheatshocker Apartments have monthly payments. A $10 late fee will be charged if an installment or monthly payment is not received by the fifth day after the due date. Rates include all utilities (water, gas, electricity), local telephone service, basic cable TV service, and an activity fee. All facilities are air conditioned.

Students who cancel their contracts after July 1 (December 1 for spring semester only contracts) are subject to penalty. They may forfeit their prepayment/deposit. Students who cancel their contracts after occupancy are assessed a cancellation fee of $150 plus 50% of the remaining balance of the contract. The cancellation fee is subject to appeal. See the contract for details.

Rates are for fiscal year 2000. Rates may be changed by the Kansas Board of Regents.

Fairmount Towers*  

<table>
<thead>
<tr>
<th>Meal Plan</th>
<th>Double</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-max</td>
<td>$4,160</td>
<td>$5,840</td>
</tr>
<tr>
<td>15-max</td>
<td>$4,070</td>
<td>$5,750</td>
</tr>
<tr>
<td>10-max</td>
<td>$3,970</td>
<td>$5,650</td>
</tr>
<tr>
<td>19-basic</td>
<td>$4,060</td>
<td>$5,740</td>
</tr>
<tr>
<td>19-meal plan</td>
<td>$3,970</td>
<td>$5,650</td>
</tr>
</tbody>
</table>

* A $100 prepayment is due upon signing the contract. The prepayment is part of the contract amount; it guarantees the reservation of the room and is included in the rates. Fairmount Towers rooms are furnished. A fine arts specialty housing floor is offered on Fairmount Towers-South Second Floor. Max meal plans include $100 in Shocker Dollars for the year, $50 per semester. Shocker Dollars continue after the semester/session for which they were purchased.

Brennan Hall*  

<table>
<thead>
<tr>
<th>Meal Plan</th>
<th>Double</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>120-block meal plan, S</td>
<td>$2,430</td>
<td>$3,870</td>
</tr>
<tr>
<td>120-block meal plan, L</td>
<td>$2,580</td>
<td>$4,130</td>
</tr>
<tr>
<td>120-block meal plan, X</td>
<td>$2,670</td>
<td>$4,330</td>
</tr>
<tr>
<td>5-basic meal plan, S</td>
<td>$2,630</td>
<td>$4,070</td>
</tr>
<tr>
<td>5-basic meal plan, L</td>
<td>$2,780</td>
<td>$4,330</td>
</tr>
<tr>
<td>5-basic meal plan, X</td>
<td>$2,870</td>
<td>$4,530</td>
</tr>
<tr>
<td>Shocker Dollar meal plan, S</td>
<td>$2,430</td>
<td>$3,870</td>
</tr>
<tr>
<td>Shocker Dollar meal plan, L</td>
<td>$2,580</td>
<td>$4,130</td>
</tr>
<tr>
<td>Shocker Dollar meal plan, X</td>
<td>$2,670</td>
<td>$4,330</td>
</tr>
</tbody>
</table>

* A $100 deposit is due upon signing the contract. The deposit is not part of the contract amount, but it guarantees the reservation of the room. The deposit is refundable, subject to damage assessments after proper check-out. Numbers correspond to room layouts on the Wheatshocker Apartments brochure. Studio apartments are reserved for married couples or families. Wheatshocker residents are not required to have a board plan, but may choose any of the plans offered to Fairmount Towers and Brennan Hall residents. Furnished 1/4 units are $20 extra per month; furnished 1/2 units are $40 extra per month.

Summer Session Housing

All freshmen live in Brennan Hall for the summer because Fairmount Towers is not available. If you are not a freshman, you may live in either Brennan or Wheatshocker. Rates are quoted for double-occupancy and for single-occupancy. Single rooms will be granted only if space is available. In Brennan Hall, a summer board plan of $25 in Shocker Dollars (per week) is required. You may contract for summer housing for varying periods of time, including pre-session only, pre-session and first four-week session, second four-week session, eight-week session, and pre-session and eight-week session. For 2000 summer rates, call Housing and Residence Life, (316) 978-3693.

Contracts and Compensatory Charges

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

No tuition is charged students enrolled in instructional programs for which the entire cost, including faculty, is financed by governmental or private agencies. Students enrolled in such programs on campus must pay all required student fees.

Refund Policy—Complete and Partial Withdrawal

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.

Students are eligible for refunds as shown below:

- Regular semester (16-week classes)
  - End of 5th day: 100%
  - End of 10th day: 80%
  - End of 15th day: 60%
  - End of 20th day: 40%
- 8-week classes
  - End of 5th day: 100%
  - End of 8th day: 80%
- 4-week classes
  - End of 1st class day: 100%
- 1-week classes
  - End of the 1st class day: 100%
- Less than 1-week classes
  - End of the 1st class day: 100%

In short-term classes, the student will have the first class period to determine if the class is suited for them. Students who register late or fail to attend the first class period in short term classes will not be
eligible for 100% refunds according to the policy. If a short-term class begins on Friday night, Saturday, or Sunday, the student will have until the end of the first business day to drop the course. In order to receive a 100% refund for the class, the student must provide documentation that he/she did not attend more than four hours of the class.

For classes that begin at times other than the regular term semester, the “first class day” refers to the first day the class meets; thereafter, the “day” refers to the business day.

No one other than the Controller’s Office in 201 Jardine Hall or the Tuition Refund Board of Appeals is authorized to determine the amount of tuition refund a student will receive.

Students who, because of extenuating circumstances, seek a higher refund than is available by policy, must petition the Tuition Refund Board of Appeals. Petition forms are available in the Controller’s Office. The petition, complete with appropriate documentation, must be filed in the Controller’s Office within the semester the course was taken.

Students who may have received approval from the University Exceptions Committee for a late withdrawal from a previous semester are not eligible by policy for a tuition refund. These are separate issues and decisions.

Federal regulations may require students attending the University for the first time and receiving student financial aid (grants, loans, or work assistance) under Title IV or whose parent(s) receives a loan under Title IV on behalf of the students who withdraw fully from the University will be subject to a different refund policy. Contact the Controller’s Office for details.

**Tuition Waiver for Kansas Teacher of the Year**

The Kansas Teacher of the Year recipient is allowed to enroll tuition free in up to nine credit hours annually provided the individual is actively pursuing a teaching career in Kansas. To be eligible, a person must be 1) a past or present recipient of the Kansas Teacher of the Year Award, under the program administered by the Kansas Department of Education, and 2) employed as a teacher in an educational institution accredited by the Kansas Department of Education. A list of persons eligible for this tuition waiver is on file in the Board of Education office.

**Student Fee Waivers**

Student fees shall be waived for all Wichita State University employees who have full-time appointments. Student fees shall be waived for adjunct faculty members, lecturers, and benefits-eligible employees who do not have full-time appointments and are not carrying full-time loads (undergraduates, 12 hours; graduates, 9 hours). These University employees must have an appointment for the semester in which the student fee waiver is applicable.

Student fees shall be waived for enrolled students who are working their cooperative education job or who are performing a required clinical rotation or internship off the WSU campus (defined as the City of Wichita and its contiguous industrial sites) for the entire semester.

Student employees and graduate assistants are not eligible for student fee waivers.

**Drop/Add Fee Policy**

Students who drop credits and do not add credits will be charged the proportional percentage based on the week they drop the credits. This remains the same as reflected in the Schedule of Courses.

Students who drop and add credits will not be required to pay additional tuition/fees if the following conditions are met:

a. The drop and add occurs in one transaction
b. There is an equal number of credit hours added as are being dropped.

**Military Refund Policy**

Students serving in the National Guard or Reserves who are called to active duty during an academic term are entitled to receive a full refund of tuition and fees. Students who are drafted and must report for active duty during an academic term are entitled to receive a full refund of tuition and fees. All refunds are subject to presentation of official documentation. Students who volunteer for military service will be subject to the University’s nonmilitary refund policy. Room and board charges will be prorated to the extent that services have been provided.

**Student Health Services Fees**

Certain fees for laboratory tests, inoculations, prescriptions, x-rays, physical examinations, and other procedures are charged to users of Student Health Services. These fees reflect direct charges to the University and every attempt is made to keep them below market cost.

**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 regular lecture or certain group activity courses—in which there is space is available and for which they have the prerequisites—without paying tuition and student fees. Parking fees will be assessed at the regular student credit hour charge. Senior citizens must present a Medicare card or driver’s license to validate age. A special senior citizen registration is held after the first day of classes (see the Schedule of Courses).

Senior citizens desiring college credit or the assurance of space in specific courses may enroll and pay full fees during regular registration. Senior citizens who have not enrolled at WSU before must complete an Application for Admission and pay the $20 application fee before registering.

**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 Financial Aid, 203 Jardine 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.

**Federal Grants and Loans.** Students may receive assistance through several federal programs: Supplemental Educational Opportunity Grants, Pell Grants, Perkins Loans, Stafford Loans, Unsubsidized Stafford Loans, and Parental Loans for Undergraduate Students.

**Employment.** Students enrolled in at least three hours may be eligible for part-time employment at the University. Federal work study employment is based on
enrollment in at least six hours and demonstrated financial need. Students may find employment as academic assistants, clerical assistants, technical assistants, custodial or food service assistants, or library assistants. For information about student employment contact the Office of Career Services, 203 Grace Wilkie Hall.

Veterans Services
The Office of Student Affairs provides services to veterans and active duty people. The services span the entire range of benefits and include certification for benefits to the VA, tutorial assistance, financial assistance information, and work-study for veterans.

Wichita State University is designated a Serviceman’s Opportunity College.

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
- Leland R. Anderson, baseball
- Anderson Walk-On, athletics
- Beech Employees Club, athletics
- Harry Corbin
- David Dearmore, athletics
- Anna, Emily, and Isabel Drummond, women’s tennis
- Floyd Farmer, athletics
- Natasha Fife, women’s golf
- Sam Gardner, golf
- Golf Memorial, golf
- Max E. and Lois J. Hubbard
- Cheese Johnson, basketball
- Albert and Marion Katzenmeier, athletics
- Marquerte Keeley, women’s basketball
- Dr. Sam and Jacque Kouri, men’s basketball
- Susan M. Kraft, athletics
- Morris and Flossie Krous, athletics
- Al and Donna Littleton, golf
- Bob Long/Vince Lombardi, athletics
- Ralph Miller, men’s basketball
- Carl Nath, baseball
- Marge Page, golf
- Jack G. Paulsen, track
- Kern Purves, golf
- Thomas Reeves, athletics
- Fritz Snodgrass, track
- Dave Stallworth, basketball
- Dr. Ronald Summers, athletics
- Delorace Tinch, women’s golf
- Jake and Flossie Krous, baseball
- Hazel Walpole, athletics
- C. Howard Wilkins, Sr., softball
- C. Howard Wilkins, Sr., women’s basketball
- Ben and Helen Wilson Football Memorial, athletics

Business
- Jerry and Jan Aaron, business
- Air Capital Alumni, Alpha Kappa Psi
- Fred and Mary Aley, business
- Allen Family, business
- Jack Austin, business
- Donna Jabara Baker, entrepreneurship
- W. Frank Barton, business
- W. Frank Barton, entrepreneurship
- Walter H. and Olive Ann Beech, business
- V. Jerry Blue, entrepreneurship
- Byron W. Booth Memorial, entrepreneurship
- Thomas Borden Branson Memorial
- Beverly and Daniel Carney, entrepreneurship
- Mike Cheesman, business
- 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
- Gene Friedman, business/entrepreneurship
- Gerald Graham, entrepreneurship
- David F. and Mary L. Gunter
- Peter B. Hoidal, entrepreneurship
- Richard H. Homburger Award for Excellence, business
- Charles and Nina Kirby Jones, liberal arts/business
- Marvin B. Kaufman Memorial, business
- Curtis D. and Kay P. LaGree
- Herbert P. Lindsay Memorial, business
- Anita Lusk, business
- Marcus Family, entrepreneurship
- Russell W. Meyer
- W.A. Michaelis, Jr.
- Frank H. Miller, accounting
- Frank A. Neff Memorial Award, business
- Nightingale
- Kenneth Northcutt Memorial, business
- Overstreet, business
- Marilyn and Kenneth Pauly
- John N. Payne, business
- Petroleum Accountants Society of Kansas, accounting
- Geraldine Rathbone, business
- Richard and Jean Reidenbaugh, entrepreneurship
- Austin and Arline Rising, aviation management
- Charles Roseducher, accounting
- Robert Ryan, economics
- Fred J. Soper, accounting
- Walter L. Stauffer, real estate
- Nora S. Stosz Memorial, business
- Nestor R. Weigand and Hobart C. Brady, real estate
- Wichita Oil Secretaries Association, business
- J. Roscoe Williams, business
- Frances O. Woodard, economics
- Ira Dean and Dixie Worden, business

Education
- Dale and Leona Alley, curriculum and instruction
- 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
David F. and Mary L. Gunter
Herbert J. Hannam, education
Dr. Robert Holmer, education
Elinor Wells Kessling
Vera M. Linn, education
Charles and Amy Mahin, English/education
Margaret Craig Meek Memorial
Nancy C. Millett, education
Sid F. Moore, teacher education
Ruth and C. Henry Nathan
John M. and Nelda Nickel, education
O. Carroll and Nelle Noel Memorial, curriculum and instruction
Nygaard Family Scholarship, physical therapy/education
Robert T. Pate, education
Physical Education Alumni
Geraldine Rathbone, education
Linwood Sexton, elementary education
Sam and Rosemary Sherr, communicative disorders
F. Yvonne Slingerland, physical education
Cladys Taggart, physical education
Helen J. Throckmorton, English
Andrea Uleberg, education
Bill Umphrey, physical education
David Wainwright Memorial, ROTC
J. Martyn Walsh, English education
Vernon and Marjorie Williams, physical education
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
Verda Colaw Memorial, engineering
Claude A. Foltz, aerospace engineering
Donald L. Homertzheim Memorial, industrial engineering
Earl R. Hutton, engineering
John C. and Maude James, engineering
Bruce and Connie Peterman
Alex and Genevieve Petrof Memorial, aerospace engineering
Edgar Stewart, engineering
H. W. Sullivan Award, engineering
James Ray Trapp Memorial, engineering
Richard and Bettye Tumlinson, engineering
Harold J. Varhanik, engineering
Dwane and Velma Wallace, engineering
Women's Aeronautical Association, engineering

Fine Arts
Mildred "Mickey" McCoy Armstrong, fine arts
Earl Richard Backus, music
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
Betty Van Arsdale Burns, fine arts
Marjorie Calkins Memorial, music
Vincent Canzonieri, music
James Ceasar, music
Eleanor Doty Clair
Cramer Fund for Art, art
Walter J. Duerksen, music
Howard E. Ellis, music
Gordon W. Evans Instrumental, music
George and Brenda Farha Endowed Scholarship in Opera
Louise Findlay, music
Martha Fleming, dance
Morris and Mary Garvin, music
Sarah Shirley Gietzen, opera
Larry Gile Memorial, violin
Henry and Helen Gott, music
Roger A. and Patricia K. Hart, music
Larry Hartmann, music
Heriford Scholarship, fine arts
Max E. and Lois J. Hubbard, music
Frank and Margaret Kessler, music
Robert M. Kiskadden, art
James W. and Mildred S. Koci, music
Jay and Lillian Kornfeld, music
June M. Lair Endowment for the Arts, fine arts
Martha Nevling Langlois Endowed Violin Scholarship, fine arts
Thurlow Libbey, music
Marcus Family Endowed Scholarship for Excellence
Ronald D. Mason Scholarship, French horn
Julianne Weaver Masters, theatre
Audrey Needle, performing arts
Henry J. and Tina Nickel, fine arts
Wallace H. Paddock, arid design
Adrian Pouliot, music
Ruth Ann Reagan, music
Mark Rindt Memorial, band
James P. Robertson, music
Sawmill Award for Excellence, fine arts
John Schneider, music
Sigma Alpha Iota, music
Elizabeth Parrott Skaer, music
Billie Smith, choral music
Clayton Staples, art
Kim Stephens Memorial, excellence in dance
Mary Jane Teall, theatre
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
A.J. and Jean Bachas, general
Hazel M. Barfoot Memorial
Big Brothers-Big Sisters of Sedgwick County, general
Margaret F. Gillespie Brehm, general
J.W. and Hazel Brown Memorial, general
Marvin G. Brown Football Memorial, general
Louisa Byington, general
Van Dilla Chapell, general
Mr. Vernon Chase Endowed Memorial
Donald G. Christian Football Memorial, general
Christmas Card Scholarship, general
Class of 1927, general
Daisy Stever and Lisle Stephan Congdon, general
Council of University Women
Edith and Harry Darby Foundation, general
Constance Louise Routh Decker—Kansas Society Daughters of the American Revolution, general
John W. Duren Football Memorial, general
Paul V. Elliott, general
Virginia Murphy Engel Memorial, general
Helen Johnson Frank, general
Friends of Delta Upsilon, general
Glen Gardner, general
Jeanne Brooks Gart
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
Francis and Dorothy Harmon
Martin E. Harrison Football Memorial, general
Deborah G. Haynes and R. Larry Beamer
Jack and Jeri Hinkle
Evelyn A. Hinton, general
Myrl Houck, general
Frank C. Isely, general
Col. James J. Jabara, general
J.R. and Inez Jay, general
Nicolas 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 Lallemand and Maurice I. Lallemand
Robert and Dorothy Langenwalter, general
L'il Egie, general
George David Lodge
William O. Long, general
Sam and Milly Marcus, general
Estella Martinez
Lenora N. McGregor, general
Veta McMahan Memorial
Men of Webster, general
Pearl J. Milburn, general
Sophia Berman Molk Scholarship, general
Stephen A. Moore Football Memorial, general
Nations Bank, general
Olive Baker Nease, general
Thomas J. 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
Linwood Sexton
Thomas T. Shaddan 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
Mike Taylor
Jack R. Vetter Football Memorial, general
Western Resources Minority
Grace Wilkie Women's Scholarship, general
I.A. and Mildred Wood
Nancy Johnson Wright, business

Health Professions
Christopher Benn, medicine, science/engineering
Dr. Mary Blood, health professions
Vicky S. Brookhauser Memorial
Hazel and Edward R. Brookings, health
Edith A. Garlock, health
Harold P. Gates Memorial, physician assistant program
Allene Nelson Henderson, nursing
Arthur and Annabelle Johnson, health
Kansas Dental Hygienists' Association
Christopher R. Knapp Memorial, health
Dr. Susan F. Kruger School of Nursing Faculty Development

Dr. Robert F. and Judith Malone, health
John G. and Barbara McCune, health
Nygaard Family Scholarship, physical therapy/education
Physician Assistant Student Society, health
Ola Osborn Piper, health
Genevieve and Cramer Reed
Zona Richardson
Paul Christopher and John Timothy Rose, health
Ray W. Rose Memorial
Harold and Ruth Van Noy Scholarship, premed
Mary Varhanik, health
Kenneth O. Welk, physical therapy
Wesley Foundation Women's Association, maternal/child nursing
Wesley Foundation Women's Association, nursing

Liberal Arts and Sciences
E.W. "Pete" Armstrong, chemistry
Douglas Bendell, liberal arts
Joan Beren, Master of Arts in Liberal Studies
Joseph G. Berkley/High Plain Journal, communications
Biological Science, biology
Dr. Leslie Blake, speech
Marguerite Bliss and Isabel Ford, liberal arts and sciences
Luella Bosworth, English
Hazel Branch, biology
War O. and Agnes Brooks, biology
Virginia "Gingy" Buck, LAS unrestricted
Charles M. Buess, chemistry
Anna V. and Robert V. Christian, chemistry
Robert V. Christian, Jr., Puebla, classical languages and literature
Harry E. Christopher Award, math
Flora Clough, English/literature
Jerry Cohn, chemistry
Sara Hyde Corbin, political science
Lee Cornell, geology
Wayne Coulson, prelaw
A. C. Cress, German
Helen M. and A.G. Crockett, returning student
Laura McMullen Cross Honorary, liberal arts
E.K. Edmiston, geology
Kathleen R. Edmiston, political science
Betty Elliott, communication
Dr. John L. Evans, premed
George and S. Jim Fairha, premed
Charlene and Lynette Furley, liberal arts
Paul H. Gerling Public Affairs Internship, political science
William M. Glenn
Harold and Eva Weiner Grafton, English
Mary Graham, history

John L. and Carrie L. Halfman Memorial, English
Geraldine Hammond, liberal arts
Donald R. Harbour, administration of justice
Chandler B. Hatfield
Mary Haymaker, English
Herman Fellers, minority students
Arthur J. Hoare, mathematics
Angelika R. Howard, conversational languages
Grace Howell, journalism
Sam C. Hutchinson, liberal arts
Anita and Larry Jones, 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. Amy C. King, math
Martin Luther King Endowed Scholarship, minority studies
Douglas A. Knight Memorial
George Lewis, psychology
Brandy M. Long Memorial, liberal arts
Charles and Amy Mahin, English/education
Frank A., Jr., and Frank Clifford Malone Memorial, chemistry
Henry and Marjorie Malone Memorial, liberal arts
Dr. Robert F. and Judith Malone, health
C.R. Mayfield, geology
R. Wesley McCarty, political science
Earl and Alice McCaslin, liberal arts
John G. and Barbara McCune, premed
Clinton C. McDonald, science
Marjorie McMahon, math
Detective Terry Wayne McNett, administration of justice
Dr. Daniel F. Merriam, geology
Marvin Munsell, anthropology
Craig Murphy, English
C. Henry and Ruth Nathan, journalism/speech
Conroy G. O'Brien, administration of justice
Dr. Henry and Minnie Ongsard, history
B. Lloyd and Eleanor B. Parker, chemistry
Robert N. and Priscilla Partridge, political science
Charles G. Pearson, journalism
Don Phillips, geology
Pat Mu Epslon, math
Dr. Jackson O. and Jane Powell, psychology
Henry and Gerry Allbritten Pronko, liberal arts
Charlotte E. Rennert, German
Charles E. Rickman, general
Larry D. Ricks, geology
F.C. Sauer, zoology
Eugene Savaiano, liberal arts
Terry and D.J. Scanlon, political science
Diana Scott, geology
Ralph and Ina Shenk, physical sciences
Vera and Skip Skelton, liberal arts and sciences
Shelley Skillman, minority studies
Jean and Henry Unruh, Jr., physics
Josephine A. Stabler, liberal arts
Steve Steffy, speech
Harold Steincamp, geology
Larry D. Ricks, geology
Mary Wittenbach, psychology
Veronica Sauer, zoology
Anna Kathleen Walsh, English
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 donor's 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
- **Fairmount Society**: $10,000 annual
- **Foundation Society**: $50,000 deferred

Donors who contribute an irrevocable deferred gift are eligible for lifetime 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:

- **Business**
  - Alumnus of Arthur Andersen and Co.
  - Boeing Scholarship
  - John H. and Mary Ann Bomgardner
  - Joseph H. and Marylyn R. Burnett, accounting
- **Business-Alumni**
- **Business-CMD Scholars**
- **Jane A. Deterding**
- **Gertrude W. Devlin**
- **Farn Credit Services and Federal Land Bank**
- **Anita Frey**, real estate
- **Goldsmith's Scholarships**
- **Grant Thornton**
- **Greater Wichita Area Construction**
- **Financial Management Association**
- **Heske Scholarship**
- **Peter B. Holdale Current, entrepreneurship**
- **Institute of Real Estate Management**
- **Kansas Bankers Association**
- **Fred C. Koch, entrepreneurship**
- **Lindburg and Vogel**
- **F. Lynn Markel**
- **Alvin M. Marcus**

Overstreet Scholarship
Alan and Robyn Reichert Society for Human Resource Management (SHRM)
Kay Walls Foundation

**Education**

- College of Education Project Grow Your Own Teachers (GYOT)
- Faneta Fitchett Memorial

**Engineering**

- Olive Ann Beech/Pratt & Whitney
- Boeing Scholarship
- J.I. Case
- Cessna Foundation Scholarships
- Delmar D. Klocke
- NSPE State of Kansas
- Vulcan Materials Company

**Fine Arts**

- Olive Ann Beech
- Walid Gholmieh, music
- James L. Hardy, music
- Hayter-Davis, voice
- Mary R. Koch
- Forrest Lattner, orchestra
- Lee Southwell Naftzger
- Brett Neff Memorial
- Ross Foundation, strings
- Phyllis Shattuck, vocal
- Jackie Smith Southard Endowment
- Wichita Symphony Society

**General**

- Augusta Christian Church
- Boyer Education
- Karol and Earl Callison
- Charitable Foundation, Inc.
- Gilbert U. Combs Memorial
- Glen W. Dickinson
- Farmers Insurance Group of Companies
  - Aid to Education Program
- William L. Graham
- Helen Leifert Memorial
- William O. Long
- NationsBank
- Presidential Scholarship
- Del Roskam
- University Dames
- Doug Unruh-Doreen Womack
- Wichita Scottish Rite—Herman Shorb

**Health Professions**

- Helen Halstead, nursing
- Mary Klocke, nursing
- Lies and Moxley, dental hygiene
- The Skillbuilders Fund

**Liberal Arts and Sciences**

- Air Products and Chemicals Company
- BG Products
- Elf Atochem Science Olympiad
- Fletcher-McKinley, chemistry
Victor Murdock, journalism
Pueblo Summer Program
Joseph K. Stafford Memorial
Symbolic Logic, computer science
Vulcan Chemical Science Olympiad
Norma Wingert Memorial, philosophy

Other
International Student Union
Metropolitan Life, handicapped
Trio Program

Student Affairs
The Vice President for Student Affairs 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 the Vice President for Student Affairs supervises the Division of Student Life, which includes services provided by the Office of Disability Services, Office of Student Life, Office of Enrollment Services, Office of Career Services, Counseling and Testing Center, Office of Student Health Services, and the Office of International Student Affairs.

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 the Strong Interest Inventory, 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 (CRC).

The CRC also houses a lab which provides computers for students to prepare job search documents such as resumes and cover letters. The computers also provide access to the World Wide Web for career research, as well as for on-line registration and interview sign-up.

Degree candidate and alumni/alumnae job search services include computerized resume referral to career employment vacancies; on-campus interviews with employer representatives; and an employment listing bulletin.

Employment 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 Wichita State 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.

Disability Services
The Office of Disability Services 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:

Office of Disability Services
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0132
(316) 978-3309

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

Disability Services encourages students to be as independent as possible on campus and to use those services which help maximize learning.

Housing and Residence Life
On-campus housing is available for more than 1,000 students in Fairmount Towers, Brennan Hall, and Wheatshocker Apartments. Housing options include an honors hall, a fine arts floor, smoke-free floors, coed floors, suite-style residence hall rooms, and a variety of apartment units.

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 Wichita State University is committed to students and student success, WSU requires all incoming freshmen to live on campus in designated University housing. Freshmen live their first two semesters in our traditional residence hall, Fairmount Towers, unless they qualify to live in the Honors Hall in Brennan or are exempted from living on campus. All other students may choose their own accommodations; however, University housing is highly recommended.

Exceptions to the freshmen residency requirement are made for freshmen who are:
1. 21 years old or older
2. Married
3. Living with a parent, legal guardian, grandparent, uncle, or aunt in Sedgwick County
4. Living in official Greek housing

All freshmen who would like to be exempted from the residency requirement—including those who fall into one of the above categories—are required to complete and submit a Freshman Exemption Form. Exemptions will be reviewed by Housing and Residence Life and a written reply will be sent to those who requested an exemption.

Admission to Wichita State does not mean automatic room reservation. Each student admitted will receive information concerning housing from Housing and Residence Life. Students need to complete a contract and an application card and pay an application fee and prepayment/ deposit to reserve a room or apartment. Students are encouraged to apply early since space is limited.

For more information, contact
Housing and Residence Life
Wichita State University
1845 Fairmount
Wichita, Kansas 67260-0141
(316) 978-3693
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 1,400 international students from more than 90 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, International Programs houses a Study Abroad Reference 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.

Student Development and Multicultural Affairs
The administrative office of Student Development and Multicultural Affairs is in 105 Grace Wilkie Hall, (316) 978-3078. The Center for Student Leadership is in 008 Rhatigan Student Center, (316) 978-3022, and the Multi-Cultural Resource Center is in Brennan Hall I at 17th Street and Yale, (316) 978-3034.

The underlying theme of the services and programs of Student Development and Multicultural Affairs is to develop and/or enhance the lifelong skills of students. We foster an environment that promotes multiculturalism and encourage students to become involved in campus life and community service to develop the skills and training necessary to become effective and successful leaders.

Student Development and Multicultural Programs include:

Greek affairs — formal rush, greek leadership retreat, and greek convocation;

Multicultural affairs — Cinco de Mayo celebration, cultural theme-month programming, and pre-Kwanzaa celebration;

Student involvement — student organizational support, student organization registration, and leadership institutes;

Volunteerism — alternative spring break, Building Up Dreams in Urban Youth (BUDUY) student mentoring program, and "Into the Streets"; and

Women’s programming and resources — women’s Brown Bag Lecture and Film Series.

Student Health Services
Student Health Services, located in 209 Ahlberg Hall, is the on-campus health care facility for students. Ambulatory health care is provided for students with health concerns, medical problems, illnesses, and injuries. Health services and health education are provided by a staff of professional nurses and physicians from the local community. 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 dermatology; gynecology; internal medicine; ear, nose, and throat; and family practice are available.

Special services of adult/travel immunizations, confidential HIV testing, tuberculin skin testing, family planning information and services, physical examinations required by academic programs, nutrition and diet counseling, and health screening are offered.

A group plan for accident and sickness insurance coverage for students and dependents is available. Opportunities to enroll in the program are offered at the beginning of each regular semester. Information is available at Student Health Services and the Office of Student Life.

Student Health Services welcomes all students regardless of insurance coverage or no insurance coverage. The goal is to provide students with appropriate health care to enable them to function at their optimum level of wellness.

Undergraduate Studies
and Student Services
The Office of Undergraduate Studies and Student Services is available to assist students who have personal or academic difficulty while at the University. The goal of this office is to help students meet their educational career goals. Students who need assistance in locating campus or community resources are advised to make an appointment. The office maintains an inventory of campus programs and services available to help students succeed. Legal referrals, emergency loans, academic appeals, and difficulties in the classroom are examples of the activities in this office. For more information, call (316) 978-3295 or send an e-mail to wuline@wtsuvn.uc.wtsu.edu.

WSU Child Development Center
The WSU Child Development Center is located at 3026 East 21st Street North, at the NW corner of Hillside and 21st Street. It is a licensed child care center for children of WSU students, faculty, staff, and community. A diverse staff of degreed teachers and student assistants facilitate developmentally appropriate activities—art, language, music, science, and literature—in an international environment. The child care center is open Monday through Friday from 7 a.m. to 6 p.m. (excluding University holidays) for children six weeks to six years old. Full- and part-time care is available in addition to drop-in care on a space available basis. Child care assistance is available for WSU student parents who demonstrate financial need; applications are available in the Financial Aid Office.

For more information, call (316) 978-3109.

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.

The center maintains a comprehensive database of economic indicators including population, personal income, employment, construction, and census data. Activities focus on issues related to the economic health of the region. The center publishes the Kansas Economic Report and a supplemental monthly, Kansas Economic Indicators.

Center for Entrepreneurship
Housed in Devlin Hall, the Center for Entrepreneurship is part of the W. Frank Barton School of Business. It encourages entrepreneurial thinking and activities through quality education, research, and community involvement to better serve its customers and stakeholders. The center provides a comprehensive curriculum in entrepreneurial studies at both the undergraduate and graduate level.
Consistently recognized as one of the top ten schools for entrepreneurship, the center offers a Bachelor of Business Administration in Entrepreneurship through the Barton School's Department of Marketing and Entrepreneurship. The entrepreneurship major offers students challenging and exciting courses emphasizing the formal study of entrepreneurship. The degree program requires completion of the University's general education courses and business core courses as well as courses specifically required for the entrepreneurship major. The business core courses include meaningful exposure to accounting, finance, economics, management, and marketing. The major also requires the student to research and write an involved business plan and to understand risk analysis, problem solving, and how to develop a business strategy for a new or growing venture. In addition, graduate students may select entrepreneurship courses in both the MBA and Master of Science in Business degree programs. Scholarships are available for both undergraduate and graduate study.

Additional programming includes workshops/seminars, a visiting lecture series, co-sponsorship of the Metro Awards, a high school conference, the Kansas Family Business Forum, and two student organizations, the Association of Collegiate Entrepreneurs (ACE) and Students in Free Enterprise (SIFE).

**Center for Management Development**

The Center for Management Development (CMD), through the Barton School of Business, offers noncredit management development seminars to Wichita and the surrounding area.

The CMD 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 the certificate, and supervises the work of students pursuing a concentration in women's studies in various undergraduate and graduate areas, particularly the Master of Arts in Liberal Studies. In addition, the center serves as an informational resource for University students, faculty, and the greater Wichita community.

**Conferences and Noncredit Programs**

The Office of University Conferences and Noncredit Programs provides noncredit continuing education opportunities by developing conferences which disseminate current research, technology transfer, and effective teaching strategies to statewide, regional, and national audiences for colleges within the University. Other conferences are organized in response to the expressed needs of off-campus organizations. These educational events are developed to provide professional accreditation as well as public service education.

The three major functions of the Office of University Conferences are to administer the University Conference Policy; to serve as the reporting liaison between the University, the Board of Regents, and other Regents' institutions for all noncredit activities conducted throughout the University; and to administer the Marcus Center for Continuing Education which serves as the University's conference center and provides a program of noncredit personal growth and development courses.

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

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

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

Students selecting the parallel option are required to carry a minimum of six hours of course work in addition to their co-op course. Students may enroll in parallel 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) 978-3688. Students are required to complete an application for admission, attend orientation, and schedule an interview with the appropriate co-op coordinator.

**French Student Exchange Program**

WSU is among the 100 colleges and universities in the United States that participate in the annual student exchange 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

Aviation research at the University dates from 1928, when aeronautical engineering students and Professor Alexander Petroff constructed the first wind tunnel, spurred by a $1,000 donation by Clyde Cessna. In 1951, the Walter Beech Memorial Wind Tunnel, financed in part by a $100,000 grant from Mrs. Olive Ann Beech, was dedicated. The National Institute for Aviation Research (NIAR) was organized at WSU in 1985, and has become a valuable resource to the worldwide aviation industry, which is so important to the Kansas economy. Current NIAR facilities encompass more than 74,000 square feet, and the 16 laboratories and associated equipment are valued at more than $20 million. The mission of NIAR—To conduct research, transfer technology, and enhance education for the purpose of advancing the nation's aviation industries—reflects a continuing emphasis on linking research, technology application, and education.

The institute serves the needs of industry and government and supports educational programs of the University, providing a site and facilities for both faculty and student research in support of the College of Engineering and Fairmount College of Liberal Arts and Sciences. As a Kansas Technology Enterprise Corporation (KTEC) designated Center of Excellence, NIAR emphasizes the progress of new technologies from laboratory to commercial application.

The institute is organized into 16 laboratories, each operating a variety of programs to fulfill its mission. Virtually every new airplane designed within the past decade by Wichita-based aircraft manufacturers has research roots which emanate from NIAR laboratories.

The Aerodynamic Laboratories have research capabilities for basic aerodynamics, confirmation testing of current and advanced designs, flow visualization, and development of advanced deicing methods. The largest wind tunnel, the Walter H. Beech Memorial Wind Tunnel, is capable of speeds up to 160 mph—with a 7 x 10 foot test section—and features state-of-the-art instrumentation and data processing capabilities. Besides traditional airplane studies, nontraditional research such as testing of buildings, land-speed-record motorcycles, an Olympic hopeful bicyclist, and futuristic large wind turbines for electric power generation have been conducted in this facility. In addition, a 2 x 3-foot flow visualization water tunnel, a 3 x 4-foot low-speed tunnel, and Mach 2 and Mach 4 supersonic tunnels are available.

The Computational Fluid Dynamics and Acoustics Laboratory provides computational expertise and software and hardware to solve complex fluid dynamics flow and aerodynamic noise problems and to complement experimental research.

The Crash Dynamics Laboratory, with a 75-foot long crash sled capable of 52-g peak load testing, conducts aircraft seat certification testing to FAA standards. The entire crash impact occurs in one-quarter second, during which time thousands of measurements are recorded and analyzed.

The Composites and Advanced Materials and Structures Laboratories have received national recognition for expertise in determining the structural properties of new lightweight composite materials through the NASA-Industry AGATE general aviation program. This laboratory features a large, high-pressure, high-temperature autoclave, ovens, pultrusion, braiding, filament winding and resin-transfer-molding capabilities, as well as extensive monitoring and measurement instruments.

The Structures Laboratory is well equipped to conduct mechanical properties testing, including environmental effects on new composite materials. Projects include aircraft and bicycle components, engine inlets, and “Aladdin,” a complete quarter-scale research airplane designed by a statewide student team which won a NASA General Aviation Award.

The Airframe Design and Analysis Laboratory works with computer models of aircraft structures, aircraft seats, and biodynamic data (simulations of the human body) to improve seat and restraint (safety belt) systems.

The Center for Technology Application (CTA) provides support for manufacturers in the application of technologies to reduce costs and maintain world-class competitiveness. The CAD/CAM (Computer Aided Design/ Computer Assisted Manufacturing) group conducts training workshops in both CADAM and CATIA software. CTA also operates the Wichita regional office of the Mid-America Manufacturing Technology Center (MAMTC), a state and federally supported technology transfer program which helps small and medium size manufacturers become and remain competitive.

Other units of NIAR include Human Factors-Ergonomics, Aircraft Icing, Information Systems, Mechatronics and Systems: Integration, Propulsion, Manufacturing Processes Simulation, and Research Machinist Shop.

Student Support. All NIAR laboratories are utilized for academic instruction for undergraduate and graduate students in addition to being used for government and industry research projects. Student research assistants gain valuable real-world research and development experience to complement their academic classroom studies, and receive pay to assist in meeting the expenses of education. More than 60 undergraduate student assistants and 50 graduate research assistants are supported annually. Many graduate students utilize NIAR laboratories and equipment to conduct their thesis and dissertation research.

Student Awards. Undergraduate students have received national awards for their participation in NASA's General Aviation Airplane Design competition. A statewide team of students from Kansas won first place in 1995, second place in 1996, and first place in 1997. This team won the first “Design It, Build It, Fly It” national competition in 1998, sponsored by NASA, FAA, EAA, AOPA, and the U.S. Air Force. The design, dubbed “Aladdin,” is on display in the NIAR lobby. Many student projects from the NIAR wind tunnels have received awards at regional American Institute for Aeronautics and Astronautics (AIAA) competitions.

Cooperative Research Relationships. NIAR has many cooperative relationships. It is one of five Kansas Technology Enterprise Corporation (KTEC) university-based Centers of Excellence. NIAR has gained a reputation as a leader in creating and sustaining new partnerships with academic institutions, industry, and state and federal agencies to enhance research and development goals through cooperative research. NIAR is a member of the FAA Center of Excellence for Airworthiness Assurance in partnership with six other major universities. NIAR has a key role in NASA's Advanced General Aviation Transport Experiment (AGATE), a multi-year program in partnership with companies which design and build single-engine and business jet airplanes. The Aircraft Design and Manufacturing Research Center (ADMRC) was formed in partnership with Kansas aviation companies, KTEC, Kansas State University, the University of
Kansas, and Pittsburg State University. Recently a new Manufacturing Innovation and Development (MIND) partnership was formed with several Wichita aviation industries to speed innovation in manufacturing processes. NIAR is a member of the Kansas Industry-University-Government Engineering Education Consortium.

Student Support Services,
Project Discovery,
McNair Scholars Program,
Upward Bound/Wichita Prep,
Upward Bound/Galaxy Experience

Student Support Services, Project Discovery, McNair Scholars Program, 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.

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 has three components which provide 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 assistance and an Interconnected series of academic classes and workshops. 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 limited-income individuals 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 also is 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 Ronald E. McNair Postbaccalaureate Achievement Program encourages qualified college juniors and seniors to pursue graduate studies. Named in honor of Challenger space shuttle crew member Ronald E. McNair, the program provides services which prepare students for post-baccalaureate study, including assistance in locating financial aid, preparation for the Graduate Record Examination (GRE), and opportunities to attend and present papers at national conferences and to write for scholarly publications. Scholars participate in research conducted by university faculty, and local and national symposiums provide an opportunity for students to present their research. In addition, regular workshops encourage students' serious consideration of doctoral study.

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 limited-income backgrounds and those who are first-generation university students with academic potential but who may have inadequate secondary school preparation. The Wichita-area 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; postsecondary admission; and academic classes and workshops. The program serves 55 students each year. The six-week residential program for students returning to high school assists them in the completion of secondary requirements and gives them exposure to college life. An eight-week residential program for students who will enroll in university classes in the fall provides them their first experience with college course work.

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 post-secondary degree in mathematics or the sciences. The program offers high school students from limited-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 research, training, and service proposals for external funding. The office collects, maintains, and provides information regarding the programs, interests, and needs of government agencies, private foundations, and businesses; facilitates communication between the faculty and prospective sponsors; coordinates the preparation and submission of project proposals; provides general administration support for grants and contracts received; and monitors compliance with federal, state, Regents', and University regulations and policies.

Small Business Development Center

The Small Business Development Center (SBDC) was established in October 1983. The SBDC provides free one-on-one management assistance, resource referrals and business information, and low-cost training to small business owners, including potential business owners and inventors. The WSU SBDC serves 13 counties of south-central Kansas.

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, Fort Hays State University, and Pittsburg State University. Founded July 1, 1967, it was the first university press in the United States to function on a statewide level under specific sponsorship of all of the state's universities. Offices are located on the campus of the University of Kansas.
Hugo Wall School of Urban and Public Affairs
The Hugo Wall School of Urban and Public Affairs was created in 1993 to enhance the urban mission of Wichita State University as articulated by the Board of Regents.

The school conducts instruction, research, and service programs, integrating these three essential University functions in responding to the needs of students and the urban environment. Academic programs in criminal justice, gerontology, minority studies, public administration, and social work make up the academic core of the Hugo Wall School. The school's service programs include professional development training for area law enforcement personnel, elected officials, and public managerial personnel; certification training for city clerks and municipal finance officers of Kansas; and various continuing education seminars/workshops for board members, employees, and volunteers with community agencies.

The school's research and community service programs include the Kansas Public Finance Center, Midwest Criminal Justice Institute, Kansas and Nebraska Regional Community Policing Training Institute, and the Center for Urban Studies.

Kansas Public Finance Center
The mission of the Kansas Public Finance Center is to develop and help implement public strategies that will promote economic vitality in Kansas and to advance the study of applied public scholarly research on the theory and practice of public finance, including public budgeting, financial management, and economic development; to strengthen the ability of WSU faculty to provide specific advice to private and public policy-makers about economic vitality and public finance; and to develop and disseminate financial analysis methodologies and techniques appropriate for the public sector based, in part, on private sector practices.

Midwest Criminal Justice Institute
The Midwest Criminal Justice Institute (MCJI) was created in the Hugo Wall School in 1997 to provide specialized education and training to regional criminal justice professionals. Eight-hour seminars are offered monthly by nationally renowned instructors who teach on substantive topics such as crime prevention through environmental design, geographic criminal profiling, restorative justice, and other contemporary criminal justice innovations. In addition to a substantive focus, the MCJI features day-long interactive seminars for criminal justice executives, and a one-week executive leadership seminar each summer. WSU students are permitted to apply MCJI seminar attendance toward elective criminal justice college credit although additional fees (and some restrictions) are required.

Regional Community Policing Training Institute
The Kansas and Nebraska Regional Community Policing Training Institute was created under a cooperative agreement between the Office of Community Oriented Policing Services, U.S. Department of Justice, and WSU. This twelve-month renewable project provides community policing training, technical assistance, and access to updated research and policy information to policy agencies in Kansas and Nebraska. While the primary focus is on rural agencies, resources and services are available to all agencies within the region. Project partners are the Wichita Police Department, Kansas Association of Chiefs of Police, and Wichita Crime Commission.

Center for Urban Studies
The Center for Urban Studies performs training, research, and policy analysis for government and community institutions. Faculty and professional staff develop, manage, and teach workshops and short courses for certification of professionals, continuing education, and development of leadership and governance skills. Educational and analytical activities at the center promote excellence in government and community improvement. To the extent possible, the center develops parallel products for academic, professional, and community application.

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 and Computer Engineering.

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

Ablah Library
Through a wide range of materials, facilities, and services, the University Libraries support teaching and research at WSU. The growing collections of more than three million items include books and periodicals, microforms, government publications, corporate annual reports, scores, videotapes, audio recordings, and CD-ROMS. In 1991, Ablah Library became an official United States Patent and Trademark Depository Library, the only such depository in Kansas.

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, and photocopiers, and typewriters. Additionally, computer terminals and printers are provided to access the library's online catalog and electronic databases.

The University's libraries offer a variety of services, including convenient hours as well as dial-in access to the online catalog and a number of the library's periodical indexes. 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 databases. When materials are not owned, interlibrary loan services will locate and borrow materials from other institutions.

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 Kanz Collection of the Civil War Sanitary Commission, and local history collections.

Cable Television
Wichita State University operates WSU-TV, which is carried by area cable television systems on channel 28 in Wichita, Bel Aire, Eastborough, Kechi, McConnell, and Park City. In most other outlying areas, WSU-TV can be seen on channel 40. Programming is provided by The
Bloomberg Report, a 24-hour news and information channel with particular emphasis on business/financial reports. With its unique multi-screen format, news is available virtually on demand. The upper right-hand two-thirds of the screen features video of an anchor giving news reports and the rest of the screen shows text reports that are updated continually.

Additional programming consists of 18 to 22 telecourses per semester, offered for academic credit by the various colleges at WSU. Local programming is also produced, featuring a monthly arts magazine, faculty profiles, distinguished guest speakers, and other campus events.

In addition to full-time staff, approximately 15 students are involved in the operation of the channel and the production of programs. Facilities are located in the Media Resources Center.

**Computing Center**
The University Computing and Telecommunications Services organization serves the students, faculty, and staff of the University by providing contemporary computing and telecommunications resources for instruction, research, and administrative information systems. These services are supported by a campus high speed fiber optic network that connects every building on campus to the central computing facility located in Jabara Hall. Campus resources are available over the campus network and access to the Internet network is available free to all students and faculty from the campus network. Residence halls are equipped with campus network connections for each student for campus and Internet access. A remote dial-in access service, ShockNet2, is also available for a nominal charge for students not living on campus.

Jabara Hall, the science laboratory and classroom building, provides state-of-the-art facilities for computing at Wichita State and allows open computer access to students as well as faculty.

The central computing facility, located in the north portion of the building, occupies three floors, two of which are accessible to the public. The first floor houses two open computer labs with more than 80 contemporary networked computer systems, a central print room, user services, and the academic support areas. The hours for the computer labs are: Monday-Thursday, 7 a.m.-midnight; Friday, 7 a.m.-8 p.m.; Saturday, 10 a.m.-8 p.m.; and Sunday, 1-8 p.m. Room 122 is electronically monitored and is open all night Monday through Thursday. The labs have computer consultants available during most of the open hours for microcomputer software, mainframe resources, and Internet access help. The labs provide free draft printing from every workstation. High resolution document scanners are also provided free for student use. Laser high quality printing and color printing services are available for a small fee. The second floor contains the administrative offices, microcomputer repair, and microcomputer networking and software offices, as well as a technology training room for faculty and staff development. The third floor houses the University’s mainframe, network servers, and technical support offices.

The computing facilities support an IBM mainframe computer system that is primarily used for administrative systems. The campus network supports Fast Ethernet between buildings and switched Ethernet within the buildings to the desktop. The campus has more than 4,000 networked microcomputer systems for campus classrooms, laboratories, and offices. Additional information concerning computing and technology is available on the University’s website (www.wichita.edu); follow the links under Administrative Resources for Computing and Telecommunications Services.

**Harvey D. Grace Memorial Chapel**
Harvey D. Grace Memorial Chapel, located in the heart of the campus near Morrison Hall and the Rhatigan Student 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 and is a frequent location for student weddings.

**Heskett Center**
The Heskett Center, a multipurpose, dance, physical education, and recreation complex, is named in honor of the parents of H. Dene Heskett, a 1935 alumnus and benefactor of WSU. The 166,000 square foot complex contains instruction, research, and recreation areas as well as the equipment necessary to support activities.

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

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

Students must show a current Shocker ID card to use the activity areas for recreation or for classes.

**Eugene M. Hughes Metropolitan Complex**
The Eugene M. Hughes Metropolitan Complex was acquired by the University in 1997 and named in Hughes’ honor in 1999. Located at 5015 East 29th Street North, the 75,000-square-foot building serves the University and the community as a meeting, classroom, and rental facility. The Hughes Metropolitan Complex Office, the Office of University Conferences and Non-Credit Programs, Small Business Administration, and two classrooms and a meeting area are housed in the building. The Speech and Hearing Clinic, Fine Arts “Black Box Theater,” and Wichita Radio Reading Service will move in in 1999.

The Hughes Metropolitan Complex features the Roger D. Lowe Auditorium which seats 1,754, the Frederick Sudermann Commons, the Richard Welsbacher Theatre, and three other meeting rooms. All are available for rent. Call (316) 978-3258 for further information.

**KMUW Radio Station**
KMUW Radio broadcasts at 89.1 FM. The 100,000-watt station is one of nearly 600 member stations of the National Public Radio (NPR) network. KMUW is also affiliated with Public Radio International (PRI) and Kansas Public Radio (KPR). 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 WSU students.

**Learning Resource Center**
Wichita State offers students a variety of academic success resources through the programs of the Learning Resource Center (LRC). Courses are offered to help students improve their reading comprehension and speed, critical thinking skills, library research skills, study strategies, and standardized test-taking skills. Complete descriptions of courses offered at the center are included under “Academic Resources for Success” in the College of Education section of the Undergraduate Catalog.
In addition to formal course work, the Learning Resource Center offers free workshops and media programs to WSU students, including study skills workshops; videotapes for study skills and for algebra review; and computer preparation programs for the Graduate Record Exam and the Pre-Professional Skills Tests.

The LRC may be contacted for information about other no-cost programs offered for special student populations, such as on-call study skills advisors, vocabulary preparation workshops, and conversation groups for students who need to increase their English speaking skills.

**Marcus Center for Continuing Education**

Many educational services are offered at the Marcus Center for Continuing Education, an adult education facility at 4201 East 21st Street. Specialized courses for business and industry, governmental agencies and the professions; special conferences for the general public; and a wide variety of personal enrichment programs are offered in the center. The center also is available as a rental facility.

**Media Resources Center**

The Media Resources Center (MRC) 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, and operates WSU-TV, the University's cable television station.

Facilities and resources include an interactive television (ITV) classroom, instructional design consulting and production, a multimedia lab, complete photographic darkroom laboratories, a graphic design studio, a professional television production studio, satellite conference downlinks, compressed video and desktop videoconferencing facilities, and the campus cable TV network.

The MRC has designed and installed and maintains 25 minimally equipped classrooms and 12 fully equipped master classrooms. More master classrooms are being installed each semester.

A wide array of media equipment systems is available for classroom use by students and faculty. These include video recording systems and projection equipment. A collection of 1,000 videotapes is available as well.

**Institute for Rehabilitation Research and Service**

The Institute for Rehabilitation Research and Service (IRRS) was established in 1995 to promote a spirit of interdisciplinary cooperation among WSU faculty with rehabilitation-oriented interests. It is committed to improving the quality of life of persons with disabilities through basic and applied research, and service delivery program enhancement in concert with Wichita rehabilitation agencies.

**Rhatigan Student Center**

The Rhatigan Student Center (RSC) is the community center for Wichita State University. Through its facilities and services, the student center serves students, faculty, staff, alumni, and guests of the University.

The RSC 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, on the first floor of the RSC, stocks all required textbooks, computer software and hardware at educational prices, art supplies, general reading material, Hallmark® cards, Shockers souvenirs, and gifts. The RSC has a Recreation Center on the lower level for leisure use. It includes pinball, video games, bowling, billiards, snacks, locker rental, disc jukebox, an engraving shop, laminating services, and a barber/beauty shop. The Recreation Center also is the home of the nationally ranked WSU varsity bowling teams. Additionally, the RSC has a 450-seat 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 RSC as well as most University facilities for out-of-classroom use. Additionally, the Reservations Office manages the University Information Center (UIC) on the first floor of the RSC. Call the UIC at (316) 978-INFO (4636) for any information about WSU.

Through the Student Activities Council (SAC), students are provided an opportunity to learn and develop leadership skills while planning a variety of programs for the campus. The Student Activities Council is the main programming body on campus; it organizes more than one hundred events annually, including Shocktoberfest and Hippodrome. The RSC is also home for the Student Government Association, Student Ombudsman, Ecumenical Christian Ministries, and the Center for Student Leadership.

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

**Satellite and Video Conferences**

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

The MRC also offers two-way compressed video services for instructional and administrative purposes to more than 30 sites in Kansas, including all six Regents' institutions. Out-of-state video-conferences also are possible with sufficient notice.

Desktop video conferencing facilities are also available as part of the Regents' Telnet 2 program.

**Social Science Research Laboratory**

The Social Science Research Laboratory houses 19 terminals, an NCS optical bubble scanner, two line printers connected to the WSU mainframes, and TWSU BBS (The Wichita State University Bulletin Board System).

The lab offers several services:

- **Test Grading Services.** They grade exams for instructors who wish to use bubble sheets as answer sheets for their exams. Differential item weighting and up to three different forms of the test are supported. Results for each student, including the items each student missed, a raw score, a percentile score, and other statistics, are generated for the instructor. Additionally, a complete item analysis and overall statistical information about the exam are available for the instructor.

- **Other Scanning Services.** They also provide service and consultation for those using bubble sheets for data collection in their research projects.

**SPTE.** The lab organizes, administers, and scores the Student Perception of Teaching Effectiveness. The instructor is provided a profile of students' perceptions of their teaching skills. Upon request, consultation is offered regarding the profile analysis.

**Terminals.** The terminals are available for both student and faculty use.

**TWSU BBS.** This computer bulletin board is for WSU faculty, staff, students, and anyone else interested in bulletin
boards. The purpose of TWSU BBS, among other things, is to (a) provide information about Wichita State University, including schedules, the University Calendar, special events, and other information; (b) direct people to individuals who can answer questions about WSU; (c) provide shareware and public domain software; and (d) provide a wide variety of network conferences and other e-mail services.

Speech-Language-Hearing Clinic
Wichita State University Speech-Language-Hearing Clinic, 104 Hubbard Hall, provides diagnosis and treatment of speech, language, and hearing problems, including hearing aid fittings. Services are available on a fee-for-service basis to people in Wichita and the surrounding communities and to University students, staff, and faculty. The clinic is open 8 a.m.-5 p.m. Monday through Friday for scheduled appointments; call 978-3289. Upper division students, graduate students, clinical staff, and faculty in the Department of Communicative Disorders and Sciences provide services. All work is provided or supervised by departmental staff and faculty who hold appropriate licensure and certification.

Sports and Recreation
Sports and recreation facilities for students at Wichita State include a regulation 18-hole golf course; the 10,429-seat Henley Levitt Arena which is used for intercollegiate basketball games, volleyball matches, and major entertainment events; Cessna Stadium; the 5,665 seat Eck Stadium-Tyler Field; home to the Shockers baseball program, which ranks among the finest college baseball facilities in the country; the Sheldon Coleman Tennis Complex with eight lighted courts, home to WSU’s men’s and women’s intercollegiate tennis program; and the new 802-seat C. Howard Wilkins Softball Complex for intercollegiate softball for women.

Wichita State is a member of the 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-courses 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. In addition to galleries which hold exhibitions from the museum’s collection, the museum hosts seven special exhibitions a year, each of which runs for approximately six weeks. Call (316) 978-3664 for information on current exhibitions.

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, David Salle, Sandy Skoglund, Jesus Morales, Faith Ringgold, and Elizabeth Murray, along with collections of electronic and neon artists and Kansas naive 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 Wichita State University Endowment Association and managed by the professional staff of the museum, now numbers more than 7,000 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. Solo exhibitions by Frederick Waugh and Ernest Trova and them exhibitions such as Twentieth Century American sculpture have traveled to museums both in this country and abroad.

A major aspect of the collection is the 58-piece outdoor installation of the Martin H. Bush Sculpture Collection, named in honor of the founding director of the museum. The collection contains a cross-section of 19th and 20th century sculptures by artists such as Auguste Rodin, Henry Moore, Louise Nevelson, George Rickey, Lynn Chadwick, and Luis Jimenez, among others. The centerpiece of this outdoor collection is the mural, Personnages Oiseuns, by the Spanish artist Joan Miró, located on the face of the museum building. Consisting of nearly one million pieces of Venetian glass and marble, the mural depicts whimsical bird characters that inhabit the imagination of the artist.

Wichita Radio Reading Service
Operating on a subcarrier frequency of KMUW, the Wichita Radio Reading Service (WRRS) programs readings of printed material to more than 2,000 print-disabled individuals. More than 100 volunteers supply the readings, with additional programming from the In-Touch Network, National Public Radio, and Public Radio International.

Wiedemann Hall
Wiedemann Hall houses the first organ built in North America by the world-renowned firm of Marcussen and Son, Denmark. The hall, which was dedicated in 1986, is the 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 broadcasting, 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.

In WSU’s prestigious Rie Bloomfield Organ Series, world-renowned organ recitalists perform on the internationally recognized Marcussen Organ.

Student Organizations
Registration
Student organizations may be granted the privileges of University recognition if they are registered with the Center for Student Leadership and approved by the Student Government Association (SGA). To be approved, each organization must provide a completed WSU Student Organization form, lists of officers with addresses, copies of constitutions and bylaws, and advisor’s name and address to the Center for Student Leadership. Once an organization has provided all necessary information, it may be granted
official recognition by SGA which means it may use Wichita State in its name, use University rooms or grounds for meetings, post announcements on University bulletin boards, request funds from student fees in accordance with established procedures and guidelines of SGA statutes, and be listed as a WSU organization in the Undergraduate Catalog, Campus Directory, and other University publications. Records of recognized organizations are maintained in the Center for Student Leadership.

For more information regarding student organization registration, contact the Center for Student Leadership, 008 Rhatigan Student Center, (316) 978-3022.

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, the University 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, the Executive Officers and Cabinet, and the University Supreme Court. The senate appoints students to many University and Faculty Senate committees, recognizes and funds more than 150 student organizations, and allocates approximately $5.5 million annually in student fees to campus agencies ranging from the Heskett Center, Rhatigan Student Center, and Student Health Services. SGA also provides opportunities to fund your education through the Rhatigan Leadership Scholarship and provides financial assistance for child care through the Child Care Scholarship Program. The cabinet executes the decisions of the senate and the officers. The supreme court issues opinions on constitutional questions and also serves as an appellate court for traffic and academic appeals. 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 April. Throughout the year, openings exist on the Student Senate, as well as in many of the University committees. 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, Rhatigan Student Center, Wichita State University, (316) 978-3480.

Student Rates
Special rates for students are available for some campus activities. The following offices have ticket and price information:
- Rhatigan Student 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.

Organizations
Academic
- Aerospace Design Club
- Alpha Pi Mu (Industrial engineering)
- American Institute of Aeronautics and Astronautics
- American Marketing Association
- American Society of Mechanical Engineers
- Association of Collegiate Entrepreneurs (ACE)
- Association for Computing Machinery
- Collegiate Music Educators National Conference
- Geology Club
- Health Careers Opportunity Club
- Human Factors and Ergonomics Society
- Institute of Electrical and Electronic Engineers
- Institute of Industrial Engineers
- International Business and Studies Association
- Japanese Student Association
- Kansas Association of Nursing Students
- Legal Assistants Society
- Mini-Baja Team
- Philosophy Society
- Physician Assistant Student Society
- Pi Mu Epsilon
- Political Science Club
- Potters' Guild
- Psi Chi (Psychology)
- Psychology Graduate Student Organization (PGSO)
- Russki Kruzhok, The Russian Club
- Sculpture Guild
- Sigma Gamma Epsilon (Science)
- Society for Human Resource Management
- Society of Automotive Engineers
- Society of Manufacturing Engineers
- Sport Administration Student Club
- Student Art Education Association
- Student Music Teachers Association
- Student of Finance Association (SOFA)
- Student Speech, Language, and Hearing Association
- The Arts Projects Student Committee
- Visual Arts Guild
- Women's Studies Scholars and Allies

Cultural/International
- Association of Moroccans in Wichita
- Chinese Student Friendship Association
- Hispanic American Leadership Organization (HALO)
- Indian Students Association
- Indonesian Student Association
- International Student Union
- Korean Student Association
- Latin American Association (ALLANSA)
- Multicultural Student Coalition
- Pakistani Students Association
- Sri Lanka Student Association
- Student Association of Bangladesh
- Taiwanese Student Association
- Turkish Student Association
- Vietnamese Student Association

Governing/Representative Councils
- Black Student Union
- Interfraternity Council
- National Pan-Hellenic Council
- Society of Women Engineers
- Student Government Association
- Women's Panhellenic Association
- WSU Engineering Council

Greeks
- Junior Greek Council

Fraternities
- Beta Theta Pi
- Kappa Alpha Psi
- Kappa Sigma
- Omega Psi Phi
- Phi Beta Sigma
- Phi Delta Theta
- Pi Kappa Alpha
- Sigma Alpha Epsilon
- Sigma Phi Epsilon

Sororities
- Alpha Kappa Alpha
- Alpha Phi
- Delta Delta Delta
- Delta Gamma
- Delta Sigma Theta
- Gamma Phi Beta
- Sigma Gamma Rho
- Zeta Phi Beta

Honorary
- Alpha Kappa Delta (Sociology)
- Alpha Psi Omega (Theatre)
- Emory Lindquist Honors Society (WSU Honors Program)
- Eta Kappa Nu (Electrical engineering)
- Golden Key National Honor Society (Top 15%, juniors and seniors)
- Lambda Pi Eta (Communications)
- Mortar Board (Senior honor society)

Official recognition by SGA which means it may use Wichita State in its name, use University rooms or grounds for meetings, post announcements on University bulletin boards, request funds from student fees in accordance with established procedures and guidelines of SGA statutes, and be listed as a WSU organization in the Undergraduate Catalog, Campus Directory, and other University publications. Records of recognized organizations are maintained in the Center for Student Leadership.

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- Lambda Pi Eta (Communications)
- Mortar Board (Senior honor society)
Omicron Delta Kappa (Leadership)
Phi Eta Sigma (Freshmen)
Pi Delta Phi (French)
Pi Sigma Alpha (Government)
Pi Tau Sigma (Mechanical engineering)
Pinnacle (Non-traditional students)
Senior Honor Men and Women
Tau Beta Pi (Engineering)

Political
WSU College Republicans

Residence Hall
Brennan Community Association
Fairmount Towers Activities Council
Residential Housing Association

Recreation/Sports Club
Aikido Club
Bowling Team

Chess Club
Flying Club
Lifeguard Club
Vovinam Club
Women’s Soccer Club
WSU Swing and Ballroom Dance Club

Religious
Campus Crusade for Christ
Christian Challenge
First Baptist International
Intervarsity Christian Fellowship
St. Paul Parish/Newman Center
University Lutheran Ministry
WSU Humanist and Freethought Society

Special Interest/Social/
Community Service/Other
Academic Quiz Team (SI)

C.S. Lewis Socratic Society
Eagle Forum Collegians of WSU
Hajime Anime Club of WSU (SI)
Middle Ages Re-enactment Society (SI)
Native American Student Association (SI)
Non-Traditional Student Association
Pay Back Society (CS)
Student Activities Council (O)
Student Advertising Federation (SI)
Student Ambassador Society (SI)
Student Health Advisory Council (SI)
Student in Free Enterprise (CS)
Student Organization of Social Work (SI)
Student Physical Therapy Association (O)
Ten Percent (S)
Tutoring Association
Young Gay Professionals League (O)
W. Frank Barton School of Business

Gerald H. Graham, PhD, Dean
114 Clinton Hall • (316) WSU-3245
www.twsu.edu/~bsbwww

The mission of the W. Frank Barton School of Business is to add value to students and to advance the practice of business through:
- offering undergraduate and graduate programs,
- conducting basic, applied, and instructional research,
- performing service that facilitates economic and personal development, and
- capitalizing on our metropolitan location.

The vision of the W. Frank Barton School of Business is to be a preferred source for recruiters of high quality business school graduates in this region.

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 have adopted the following educational goals of the Barton School which are listed below under the headings of Students, Faculty, Programs. For each grouping, a preamble states the basic values of the Barton School faculty.

Students: Students are the reason for the Barton School's existence. It is the faculty's responsibility to create programs and a learning environment that ensure the ultimate success of students. We, the faculty, want our students to evaluate positively their Barton School experiences, both while enrolled in courses and afterwards.

Goals: To ensure that students completing Barton School programs possess skills that make them competitive with students from the best business programs in the region. To increase quality and quantity of students.

Faculty: Faculty are the means by which the University creates a learning environ-

ment. The quality of the faculty and the opportunities provided to faculty for continuous improvement are of paramount importance to the success of the Barton School.

Goal: To have faculty who are widely recognized for their commitment to students and scholarship.

Programs: The programs offered by the Barton School link it to its multiple constituencies. The rich diversity of these programs reflects the University's unique metropolitan mission.

Goal: To increase the recognition of the Barton School through programs that are relevant, competitive, and up-to-date.

The school is a member of AASCS—the International Association for Management Education; its undergraduate and graduate programs are accredited by this organization.

Degrees Offered

Undergraduate

Bachelor's

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

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 Executive Master of Business Administration (EMBA), Master of Business Administration (MBA), Master of Professional Accountancy (MPA), Master of Science (MS) in business, 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, economics, entrepreneurship, finance, management, and marketing. Students in the College of Education may minor in economics or accounting. A minor in business administration is not available to students pursuing a degree in the Barton School of Business.

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

Degree-bound students who select a business major are admitted to the Barton School of Business in program status. All students in the Barton School of Business must maintain a 2.250 grade point average. Students must complete six hours of English composition, three hours of communication, and three hours of college algebra with a grade of C or better in each within their first 24 hours of enrollment in the Barton School of Business. Failure to complete this requirement will bar a student from enrolling in business courses.
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 school.

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)
Fine arts (3 hours)

Humanities (9 hours)

Social sciences
Principles of economics (6 hours)
Psychology, sociology, anthropology, political science (3 hours)

Business
Introductory accounting (6 hours)
Business microcomputers (3 hours)
Business statistics (3-4 hours)
Nonbusiness electives (10 hours)

Transfer students should be aware that 50 percent of their business course work must be taken at Wichita State University.

Probation and Dismissal
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 2.000 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 2.000. Students on probation because of a deficient cumulative grade point average may not be academically dismissed until they accumulate 12 or more attempted hours after being placed on probation.

Students on probation are dismissed from the Barton School of Business if they fail to meet the requirements of their probationary status. When dismissed, students must apply to the Barton School of Business Exceptions Committee to be considered for 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 a summer presession, 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 program. Students are placed in co-op positions in a variety of business settings, including government agencies, financial institutions, social agencies, accounting firms, entrepreneurial companies, and many others. Individual academic projects are formulated in consultation with the student's faculty advisor. Co-op placements must be approved by the student's faculty sponsor. Participation in the co-op program requires enrollment in designated courses having prerequisites. More information is available from the business coordinator in the Cooperative Education office.

Advising
The focus of advising in the Barton School of Business is to help students progress toward their educational objectives. The school's advising system offers:

1. Transcript evaluation for transfer students and continuous monitoring of degree progress for all students
2. Suggestions of specific courses to be selected in a given semester or summer session
3. Program planning designed to outline an entire course of study
4. Referral to appropriate University resources for students seeking career guidance, personal counseling, or other types of assistance.

Advising is designed to provide assistance where desired and appropriate. Students, especially those nearing graduation, are encouraged to make full use of the 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 advisor 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 advisor.
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 (100 Clinton Hall). Students should come to the Office of the Dean for special advising assistance that cannot be resolved at locations described below and to file appeals and waiver requests relative to school and University regulations. The dean’s office 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 providing referrals to other University offices for assistance as appropriate.

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

Legal Assistant Majors (100 Clinton Hall). All legal assistant majors are advised by the professor of the Legal Assistant Program. Appointments should be made in 325 Clinton Hall.

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, 202Q, 231, and one upper-division economics elective course count as courses outside the school). Any course that is cross-listed with a business course is considered to be a business course and does not count as non-business hours. Students may, however, choose to have one upper-level economics course count as a non-business course.

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. Complete at least 50 percent of the total hours required by 3 and 4 above at Wichita State University. (The following core courses are excluded in computing the 50 percent requirement: Math. 111 and 144/242Q; Econ. 201Q, 202Q, 231, and one upper-division economics elective.)

6. 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
- Acct. 220, Managerial Accounting
- Acct. 260, Introduction to Information Processing Systems for Business
- Econ. 201Q-202Q, Principles of Macroeconomics and Microeconomics
- Econ. 231, Introductory Business Statistics
- General education electives

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

**Senior Year**
- Mgmt. 430, Business, Government and Society
- Mgmt. 681, Strategic Management

Major courses

Students graduating from the Barton School will take at least one behavioral science course from the following list: Mgmt. 362, 462, 661, 662, 663, 680; Mkt. 305; Psy. 111; Soc. 111.

Students planning to enroll in upper-division business courses (courses numbered 300 to 600) must have completed 60 semester credit hours and met the requirements for advanced standing. Accreditation of the school by AACSB stipulates that students should 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 department chairperson 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. The core courses required for the BBA are:

**I. Foundation Knowledge for Business**

**A. Accounting**
- Acct. 210, Financial Accounting*
- Acct. 220, Managerial Accounting*
- Acct. 260, Introduction to Information Processing Systems for Business*

**B. Behavioral Science**
- Mgmt. 360, Management and Organizational Behavior
C. Economics
Econ. 201Q*-202Q*, Principles of Macroeconomics and Microeconomics and one upper-division economics course

D. Mathematics and Statistics
Math. 111, College Algebra*
Math. 144, Business Calculus*
Math. 242Q, Calculus I will be accepted in lieu of Math. 144
Econ. 231, Introductory Business Statistics*

II. Environment of Business—provides an understanding of the perspectives that form the context for 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

III. Business Functions
Mkt. 300, Marketing
Fin. 340, Finance
DS 350, Introduction to Production and Operations Management
DS 495, Management Information Systems for Business

IV. Business Policy
Mgmt. 681, Strategic Management

In addition, University graduation requirements include courses designed to help develop written and oral communication skills (Engl. 100 or 101, Engl. 102, and Comm. 111). These courses must be completed with a grade of C or better.

* These courses are prerequisites for upper-division courses.

Note: Any faculty member teaching an upper-division course in the Barton School of Business may assume that all students have completed the specific courses listed under Freshman Year and Sophomore Year above.

First-Year Course
BA 190A, The Right Start: Becoming a Master Student, is a 3-credit-hour course specifically designed for first-year business students. Extensive research indicates that students who take a course like this
1. make vital connections to university faculty and resources,
2. are more likely to complete their degree,
3. do better academically, and
4. enjoy their university experiences more.
A complete course description appears on page 52.

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 students who are not accounting majors. For information about the Master of Professional Accountancy degree, see the Barton School of Business—Master of Professional Accountancy section of the Catalog. Undergraduate students may begin work leading toward the MPA degree early in their academic career.

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:
Course
Hrs.
Acct. 310, Financial Accounting and Reporting: Assets .......................... 3
Acct. 320, Accounting for Decision Making and Control .......................... 3
Acct. 410, Financial Accounting and Reporting: Equities .......................... 3
Acct. 430, Introduction to Federal Income Tax .......................... 3
Acct. 560, Accounting Information Systems ...................................... 3
Acct. 610, Financial Accounting and Reporting: Special Entities and Complex Issues ...................................... 3
Acct. 620, Accounting for Strategic Support and Performance Evaluation .......................... 3
Acct. 630, Taxation of Business Entities .......................... 3
Acct. 640, Principles of Auditing .......................... 3
Upper-division economics elective .......................... 3
Engl. 210, Composition: Business, Professional and Technical Writing .......................... 3

Accounting Minor
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 Acct. 210, 220, 260, and 9 hours of upper-division accounting.

Business Administration Major
Required Courses:
Hrs.
A minimum of 15 hours must be selected from courses listed below and distributed over four of the five areas ........................................... 15
Acct. 310, Financial Accounting and Reporting: Assets (3); Acct. 320, Accounting for Decision Making and Control (3); Acct. 410, Financial Accounting and Reporting: Equities (3); Acct. 430, Introduction to Federal Income Tax (3).
Econ. 304, Managerial Economics (3); Econ. 340, Money and Banking (3); Econ. 661, Collective Bargaining and Wage Determination (3); Econ. 672, Introduction to International Economics and Business (3).
Fin. 620, Investments (3); Fin. 631, Money and Capital Markets (3); Fin. 660, Cases in Finance (3).
Mgmt. 462, Leading and Motivating (3); Mgmt. 464, Communicating Effectively in Organizations (3); Mgmt. 661, Coaching, Developing, and Mentoring; Mgmt. 662, Managing Workplace Diversity; Mgmt. 663, Building Effective Work Teams; Mgmt. 660, Designing Effective Organizations (3); Mgmt. 680, Making Effective Decisions (3); IB 600, International Management (3); HRM 466, Fundamentals of Human Resource Management (3).
Mkt. 403, Marketing Research (3); Mkt. 405, Consumer Behavior (3); Mkt. 609, Marketing Programs (3).
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 ........................................... 9

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:
Course
Hrs.
Acct. 210, 220 ........................................... 6
Econ. 201Q, 202Q ........................................... 6
Three of the following four courses:
DS 350, Fin. 340, Mgmt. 560, Mkt. 300 ........................................... 9
Electives from upper-division business courses ........................................... 6
Economics Major
Department of Economics
A major requires a minimum of 21 upper-division hours in economics beyond the college core. Within the 124 hours required for graduation, a maximum of 41 hours in economics is allowed, counting the courses in the college core. Students who plan to major in economics should consult with the undergraduate advisor in the Department of Economics. The following courses are required and must be included in the 124 hours:

Course          Hrs.
Econ. 301, Intermediate
Macroeconomics ........................................3
Econ. 302, Intermediate
Microeconomics or
Econ. 304, Managerial Economics ....................3
Upper-division electives (at least 9 hrs. in economics, other 6 with advisor's consent) beyond the college core .............15

Economics Minor
A minor in economics is available to any student whose major field or area of emphasis is outside of economics. A minor consists of 15 hours of economics including Econ. 201Q and 202Q (or equivalent) and 9 hours of upper-division economics.

Teaching of Economics. 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 advisor in the College of Education for program planning.

Entrepreneurship Major
Department of Marketing and Entrepreneurship
The entrepreneurship major requires 21 upper-division hours beyond the college and business core. Students who plan to major or minor in entrepreneurship should contact the Center for Entrepreneurship for special counseling and scholarship information. The major requires twelve hours of core courses and nine hours from a list of approved elective courses.

Core courses:
Entre. 320, Principles of Entrepreneurship ............3
Entre. 420, Developing a New Venture Marketing Plan ........................................3
Entre. 620, Growing and Managing an Entrepreneurial Firm ..................................3
Entre. 668, Developing a Successful Business Plan ...........................................3

Electives (9 hours):
Acct. 320, Accounting for Decision Making and Control ........................................3
Acct. 430, Introduction to Federal Income Tax ................................................................3
B. Law 435, Law of Commercial Transactions ................................................................3
B. Law 436, Law of Business Associations ...................................................................3
Econ. 661, Collective Bargaining and Wage Determination .....................................3
Entre. 481, Cooperative Education .............................................................................3
Entre. 491, Independent Study in Entrepreneurship ..................................................3
Entre. 492, Internship in Entrepreneurship .................................................................3
Entre. 606, New Product Marketing ...........................................................................3
Entre. 608, Selling and Sales Force Management .......................................................3
Entre. 610, Short-Term Financial Management ................................................................3
Entre. 690, Special Topics in Entrepreneurship ..........................................................3
Entre. 6905, Project—Students in Free Enterprise .......................................................3
Fin. 620, Capital Budgeting .........................................................................................3
Fin. 660, Cases in Finance ............................................................................................3
HRM 466, Fundamentals of Human Resource Management ....................................3
Mgmt. 426, Leading and Motivating ...........................................................................3
Mkt. 403, Marketing Research .......................................................................................3
Mkt. 404, Retail Management ......................................................................................3
Mkt. 405, Consumer Behavior ......................................................................................3
Mkt. 407, Marketing for Service and Nonprofit Organizations ....................................3
Mkt. 601, International Marketing ................................................................................3
Mkt. 604, Distribution Management ............................................................................3
Mkt. 607, Promotion Management ...............................................................................3
RE 310, Principles of Real Estate ................................................................................3
Entre. 160Q, Introduction of Entrepreneurship ............................................................3
or
Entre. 250, Entrepreneurship and Personal Enterprise ..............................................3
Entre. 320, Principles of Entrepreneurship .................................................................3
Entre. 420, Developing a New Venture Marketing Plan ................................................3
Entre. 620, Growing and Managing an Entrepreneurial Firm .....................................3
Entre. 668, Developing a Successful Business Plan ....................................................3

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:
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. 630, Financial Institutions ..................................................................................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 II .................................................................3
RE 619, Urban Land Development ......................................................................3

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.
Electives (9 hours), 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
One 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. 630, Financial Institutions ..........3
Fin. 632, Commercial Bank Management ............................................3
Econ. 340, Money and Banking .........................................................3

Finance Minor
A minor in finance consists of 15 hours, including Fin. 340, Fin. 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 446, Fundamentals of Human Resource Management ..................3
HRM 664, Labor Relations ..........3
HRM 666, Human Resource Selection .............................................3
HRM 668, Compensation ..........3
HRM 669, Training and Development .............................................3
Electives, from the following: ..................................................6
Econ. 661, Collective Bargaining
Mgmt. 462, Leading and Motivating
Mgmt. 464, Communicating Effectively in Organizations
Mgmt. 660, Designing Effective Organizations
Mgmt. 661, Coaching, Developing, and Mentoring
Mgmt. 662, Managing Workplace Diversity
Mgmt. 663, Building Effective Work Teams

International Business Major
Department of Management

Required Courses: Hrs.
Fin. 625, International Financial Management ..................................3
Mgmt. 561, Introduction to International Economics and Business ....3
IB 600, International Management ..............................................3
IB 601, International Marketing .............................................3

Directed electives: Two of the following courses selected in consultation with the student's major advisor .............................................................6
Econ. 615, Economics of Transportation
Econ. 671, Economic Growth and Development
Geog. 510, World Geography
IB 390C, International Purchasing
IB 491, International Business Independent Study
IB 492, International Business Internship
Mkt. 403, Marketing Research
Upper-division business elective .............................................3

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 also are required.

Management Major
Department of Management

Seven courses selected from the following:
Course Hrs.
Mgmt. 362, Managing People in Organizations ................................3
Mgmt. 462, Leading and Motivating ..............................................3
Mgmt. 464, Communicating Effectively in Organizations ..................3
Mgmt. 660, Designing Effective Organizations ................................3
Mgmt. 661, Coaching, Developing, and Mentoring .........................3
Mgmt. 662, Managing Workplace Diversity ......................................3
Mgmt. 663, Building Effective Work Teams ....................................3
Mgmt. 680, Making Effective Decisions .......................................3
HRM 446, Fundamentals of Human Resource Management ...............3
HRM 664, Labor Relations ..........................................................3
HRM 666, Human Resource Selection ........................................3

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

Management Information Systems Major
Department of Finance, Real Estate, and Decision Sciences

The MIS major consists of the following courses

Required Courses: Hrs.
Acct. 260, Introduction to Information Processing Systems for Business (or computer science equivalent) .................3
MIS 200, Fundamentals of Programming and Programming Languages .................3
MIS 300, Data Communications and Computer Networks ..................3
MIS 350, Systems Analysis and Design ........................................3
MIS 600, Database Management Systems ......................................3
MIS 650, Problem Solving, Decision Support, and Expert Systems ........3
MIS 696, Management of the IS Function ......................................3

Marketing Major
Department of Marketing and Entrepreneurship

Required Courses: Hrs.
Mkt. 403, Marketing Research ....................................................3
Mkt. 405, Consumer Behavior ..................................................3
Mkt. 609, Marketing Programs ..................................................3
Electives, from the following: ..................................................6
Mkt. 404, Retail Management
Mkt. 407, Marketing for Service and Nonprofit Organizations
Mkt. 601, International Marketing
Mkt. 604, Distribution Management
Mkt. 606, New Product Marketing
Mkt. 607, Promotion Management
Mkt. 608, Selling and Sales Force Management

Electives, selected with consent of major advisor ........................................6

Marketing Minor
A minor in marketing consists of 15 hours, including Mkt. 300, 405, and 609, and 6 hours of upper-division marketing courses chosen from Mkt. 403, 404, 407, 601, 604, 605, 606, 607, and 608. At least 9 hours must be taken at WSU with at least a 2.25 GPA in these courses.

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 emphases 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 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 several different professional designations. The designation Certified Public Accountant (CPA) requires that the candidate pass the Uniform CPA Examination and meet the requirements of Kansas law and the regulations of the Kansas State Board of Accountancy (or the relevant state of residence/practice, if not Kansas). The areas tested on the examination include auditing, business law, and accounting theory.

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 see 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 lack of 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 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
   - Econ. 231, Introductory Business Statistics .........................................................4
   - Upper-division economics course ..................3
   - Engl. 210, Composition: Business, Professional and Technical Writing ..............3
   - Math. 111, College Algebra .................................................................3
   - Math. 144, Business Calculus .................................................................3
   - Comm. 111, Public Speaking .................................................................3
   - 2. The candidate must complete a minimum of 25 hours of the following Barton School of Business core requirements:
      - Acct. 210, Financial Accounting .................................................................3
      - Acct. 220, Managerial Accounting .................................................................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
      - 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, Financial Accounting and Reporting: Assets .................................3
   - Acct. 320, Accounting for Decision Making and Control ..................................3
   - Acct. 410, Financial Accounting and Reporting: Equities ................................3
   - Acct. 430, Introduction to Federal Income Tax..................................................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.

Degree Requirements—Students Possessing a Bachelor's Degree at Time of Admission

Total degree requirements for students granted admission after completion of a bachelor's degree will vary and depend upon the specific course content of the undergraduate degree program. As a minimum, the candidate's program must total 30 graduate-level credit hours beyond the bachelor's degree, including 15 semester hours of accounting courses numbered 800 or above and a total of 21 semester hours in courses numbered 800 or above.

In general, we assume an undergraduate degree in business with a major in accounting equivalent to that required at Wichita State University. See page 47 for details. If a person is admitted without
sufficient background, that person's total degree program will be adjusted upward to satisfy any deficiencies.

The following graduate-level course work must be completed:

- Acct. 815, Financial Accounting and Reporting: Contemporary Issues 3
- Acct. 825, Management Control Systems 3
- Acct. 835, Tax Research and Selected Topics 3
- Acct. 840, Advanced Principles of Auditing 3
- Acct. 860, Advanced Accounting Information Systems 3

Electives outside accounting, selected with consent of graduate accounting advisor 9

A minimum of 21 semester hours must be in course work numbered 800 or above.

**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 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 a formal 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/advisor 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 identity the particular course or courses, the reason for seeking admission and the background which is the basis for a 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. General Education Requirements</td>
<td>30</td>
</tr>
<tr>
<td>Basic Skills</td>
<td>12</td>
</tr>
<tr>
<td>Engl. 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Comm. 111, Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Math. 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Fine Arts</td>
<td>3-12</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>3-12</td>
</tr>
<tr>
<td>Mathematics and Natural Sciences</td>
<td>3-12</td>
</tr>
<tr>
<td>II. Professional Curriculum</td>
<td>34</td>
</tr>
<tr>
<td>A. Required Courses</td>
<td>16</td>
</tr>
<tr>
<td>B. Law 130Q, Introduction to Law 3</td>
<td></td>
</tr>
<tr>
<td>Legal 230, Introduction to Paralegalism</td>
<td>2</td>
</tr>
</tbody>
</table>

- Legal 231A, Legal Research and Writing I 3
- Legal 233, Litigation I 3
- Legal 240, Substantive Law: Torts 3

- Acct. 210, Financial Accounting I 3

B. Required Courses or Validated Equivalents 6

- Legal 238, Legal Assistant Internship 2
- Legal 244, Legal Assistant Computer Skills 3

Legal assistant internship is a requirement for students who do not have the law-related work experience equivalent. Proficiency in utilization of a microcomputer is also a graduation requirement. Work experience in a law office may be validated to satisfy the internship requirement. Computer skills may be validated to satisfy the computer requirement. Academic credit will not be granted where these requirements are met by validation.

C. Professional Electives 12-18

- Legal 232, Legal Aspects of Business Organizations 3
- Legal 234, Estate Administration 3
- Legal 235, Law Office Management and Technology 3
- Legal 236, Litigation II 3
- Legal 237, Family Law 3
- Legal 239, Special Topics 3
- Legal 241, Legal Research and Writing II 3
- Legal 243, Property Law 3
- B. Law 431, Legal Environment of Business 3
- B. Law 435, Law of Commercial Transactions 3
- B. Law 436, Law of Business Associations 3
- CJ 315, Criminal Law 3
- CJ 320, Criminal Procedure 3
- Acct. 260, Introduction to Information Processing Systems for Business 3
- Mgmt. 360, Management and Organizational Behavior 3

D. The 34-hour professional curriculum must include a minimum of 18 hours of legal specialty courses. Legal specialty courses are identified with an asterisk (*).
sional electives under the professional curricula requirements, and (i) 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 only 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.)

Business Administration—General

Lower-Division Courses

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

190A. The Right Start: Becoming a Master Student. (3). Specifically for first-year business majors. Helps students become master students. Offers an extended exposure to the mission, strategies, and programs of the Barton School of Business. Helps students prepare for success in studying, working with other students, interacting with faculty, and planning their career. Students learn current business practices and interact with representatives of the business community. Non-business students may enroll on a space-available basis. Counts as a business elective for any student enrolled in the Barton School of Business.

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

Upper-Division Course

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

Executive Master of Business Administration

Graduate Studies in Business

Courses for Graduate Students Only

800. Statistical Analysis and Quantitative Methods for Decision Making. (3). Introduces methods of statistical inference, emphasizing applications to administrative and management decision problems. Includes classical estimation and hypothesis testing, regression, correlation, analysis of variance, and nonparametric methods. Prerequisite: admission to EMBA program.

801. Human Behavior and the Management of Organizations. (3). Examines leadership styles, power, authority, motivations, communications, and their impact on human behavior. Includes organizational learning, team building, participative management, transformational leadership, managing diversity, conflict management, network organizations, organizational change, and re-engineering. Prerequisite: admission to EMBA program.

802. Marketing for Executive Management. (3). Focuses on the analysis, planning, and implementation of marketing strategies from middle- and upper-management perspectives. Introduces key concepts and methods for the development of integrated marketing programs. Prerequisite: admission to Executive MBA program.

803. Economic Analysis for Managers. (3). Focuses on the behavior of the firm's product and labor markets; the consequences of business, regulatory and tax policies; industry pricing; research and development strategies; transfer pricing; the effects of vertical and horizontal integration; leveraged buy-outs and principal-agent problems. Prerequisite: admission to Executive MBA program.

804. Operations Management. (2). Focuses on the processes by which goods and services are supplied, produced, and distributed in organizations. Emphasizes systems for analyzing design and operational problems in the production/operations function. Prerequisite: admission to Executive MBA program.

805. Global Business and Competitiveness. (2). Focuses on applications of economic analysis to international business decisions, international and macroeconomic components, understanding the implications of macro policies and developments for the firm's business environment, expansions into foreign markets, foreign investment and the relevance of global changes in technology and labor productivity, and foreign exchange, balance of payments, and trade policy issues. Prerequisite: admission to Executive MBA program.


807. Corporate Finance. (3). Focuses on the strategic decision that an organization makes leading to capital spending. Also includes the risk element in financial decision making and the financial instruments that have evolved to reallocate risk in the economy. Prerequisite: admission to Executive MBA program.

808. Using Accounting Information to Improve Strategic and Operational Performance. (3). Focuses on the use of financial information in management decision making. Includes internal reporting systems, cost management systems, planning and budgeting, performance measurement issues, and activity-based management. Prerequisite: admission to Executive MBA program.

809. Information Technology. (3). Focuses on information as a resource and the links between business strategy and information technology, the organizational implications of technology, and how to successfully incorporate information technology into organizations to support management decision making and control. Prerequisite: admission to Executive MBA program.

810. Managerial Investment Strategies. (2). Focuses on investment management, asset pricing models, factor models, performance assessment, option pricing, and other derivative securities. Prerequisite: admission to Executive MBA program.

811. Managerial Strategy. (3). Integrates the other courses in the program by addressing the strategic management of an organization. Focuses on developing a strategic plan that maximizes shareholder value, generates commitment and effective action from others in the organization for implementing the plan, and developing a strategy consistent with the organization's resources while increasing shareholder value by satisfying customers better than do competitors. Prerequisite: admission to Executive MBA program.

Accounting

School of Accountancy

Lower-Division Courses

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

210. Financial Accounting. (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.

220. Managerial Accounting. (3). The study of accounting in terms of management's information requirements. Emphasizes the use of accounting information to assist management in planning, analyzing, and implementing business decisions and activities. Prerequisite: Acc 210.

260. Introduction to Information Processing Systems for Business. (3). Introduces the use of information processing systems in solving business problems and meeting the information needs of the modern business environment. Includes word processing, spreadsheet
analysis and use, use of computerized data bases, and an introduction to the internet.

Upper-Division Courses


320. Accounting for Decision Making and Control. (3). The use of accounting information to assist management in planning, analyzing, and implementing processes for decision making and control. Focus is operational control in contemporary business contexts. Prerequisites: junior standing, Math. 109 or 111, and Acct. 220 and 260.

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


430. Introduction to Federal Income Tax. (3). An overview of the federal tax law and those laws specifically applicable to individuals and sole proprietors. Also introduces tax research techniques. Prerequisites: Acct. 210; 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. (3). A study of the content, design and controls of accounting systems, emphasizing the use of computers for processing financial data. Prerequisites: Acct. 220 and 260; Math. 109 or 111; senior standing.

610. Financial Accounting and Reporting: Special Entities and Complex Issues. (3). Examines accounting concepts and techniques related to consolidated statements, governmental and not-for-profit entities, and partnerships. Includes accounting for foreign currency, hedges, financial instruments, and emerging issues in financial accounting and reporting. Prerequisites: Acct. 410 or equivalent; Math. 109 or 111; senior standing.

620. Accounting for Strategic Support and Performance Evaluation. (3). The use of accounting information to assist management in developing and identifying superior strategies to produce and sustain comparative and/or competitive advantages. Focuses on goal-congruent strategies and incentives. Prerequisites: junior standing; Math. 109 or 111; Acct. 260 and 320.

630. Taxation of Business Entities. (3). Studies the federal tax law as it applies to corporations, partnerships, S corporations, and tax-exempt entities. Examines the effect of taxation on business decisions. Prerequisite: Acct. 430 or equivalent.

640. Principles of Auditing. (3). 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.

777. Review for Professional Examinations. (1-6). Prepares students for professional certification examinations. Includes CPA, CMA, and CIA examination reviews. Prerequisites: graduate standing in the School of Accountancy or Barton School of Business.

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. Prerequisite: no previous credit in accounting or permission of the School of Accountancy.

801. Managerial Accounting. (3). Examines the use of accounting information to assist management in planning, analyzing, and implementing business decisions and activities. Focuses on strategic and operational performance analysis and evaluation. Prerequisite: Acct. 800 or equivalent.

802. The Effect of Taxation on Management Decisions. (3). Introduces the basic tax concepts of income, deductions, and credits that will enable managers to (1) understand the tax consequences of their business decisions and (2) communicate effectively with tax professionals in structuring business transactions. Prerequisites: graduate standing and Acct. 800 or equivalent, or permission of the School of Accountancy.

815. Financial Accounting and Reporting: Contemporary Issues. (3). Uses the case method to examine and analyze the application of generally accepted accounting principles to problems of measurement, presentation, and disclosure in financial statements. Focuses on contemporary topics of interest in financial accounting and reporting. Prerequisites: graduate standing and Acct. 610 or equivalent, or permission of the School of Accountancy.

825. Management Control Systems. (3). Studies accounting in the context of management control systems. Focuses on how accounting interacts with management in achieving an organization's strategic and operational objectives. Emphasizes contemporary challenges in accounting, related to broadening the types of information captured, measured, and reported. Prerequisites: graduate standing and Acct. 620 or 601 (or equivalent), or permission of the School of Accountancy.

831. Taxation of Estates and Trusts. (3). Studies the income taxation of trusts and estates, including the special cases of grantor and split-interest trusts. Examines the gift taxation of donors, the estate taxation of decedents, and the fundamentals of estate planning. Prerequisites: graduate standing and Acct. 430 (or equivalent), or permission of the School of Accountancy.

835. Tax Research and Selected Topics. (3). An in-depth study of traditional and computerized tax research and planning techniques, ethical issues, tax practice issues, and an introduction to state, multistate, and international taxation. Prerequisites: graduate standing and Acct. 430 (or equivalent), or permission of the School of Accountancy.

840. Advanced Principles of Auditing. (3). An advanced study of auditing emphasizing EDP auditing statistical sampling and ethics. Prerequisites: graduate standing and Acct. 510 and 640 (or equivalent), or permission of the School of Accountancy.

860. Advanced Accounting Information Systems. (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 Acct. 560 (or equivalent), or permission of the School of Accountancy.

890. Seminar in Special Topics. (1-3). Repeatable with permission of the School of Accountancy.

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

899. Thesis Research. (1-3).

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. 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. Addresses ethical and social responsibility considerations as an integral aspect of legal regulation. Prerequisite: junior standing.

435. Law of Commercial Transactions. (3). An introduction to the legal environment in which businesses operate. 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. Addresses ethical and social responsibility considerations as an integral aspect of legal regulation. Prerequisite: junior standing.

436. Law of Business Associations. (3). Law of agency, partnerships, and corporations. Considers the organizational and relational aspects of both small, closely held businesses and large corporate enterprises. 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 and 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 society, and 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.

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

Decision Sciences

Department of Finance, Real Estate, and Decision Sciences

Lower-Division Course

190. Selected Topics. (1-5). 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 management, and control of work design and measurement. Prerequisites: Econ. 231 and Math. 124, 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 and 2.750 GPA in decision sciences and departmental consent.


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-queue theory. Prerequisites: junior standing and 2.750 GPA in business law.

875. Management Science. (3). Provides basic background for students majoring in management science. Introduces and develops the mathematical basis for using computerized management science models to solve practical problems. Prerequisite: DS 350 or 850.

876. Advanced Management Science. (3). An introduction to management science models used in support of modern decision making. Includes multiple regression, correlation, analysis of variance and covariance, and discriminant analysis. Prerequisite: Econ. 870 or Econ. 231.

877. Multivariate Statistical Methods. (3). A study of selected multivariate statistical methods used in support of modern decision making. Includes multiple regression, correlation, analysis of variance and covariance, and discriminant analysis. Prerequisite: Econ. 870 or Econ. 231.

879. Management Information Systems. (3). A study of the structure and the strategic organizational role of computer-based information systems in organizations. Covers transaction processing/accounting information systems, management information 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). Provides quantitative bases from which the student may develop analytical abilities for use as a decision maker. Areas of study include mathematical programming, game theory forecasting, queuing theory, and simulation. Prerequisite: calculus.

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.
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.

Economic principles and theory—Econ. 201Q, 202Q, 203H, 204H, 301, 302, 304, 605, 800, 801, 802, 804
Industrial organization and regulated industries—Econ. 614, 615, 617
History and comparative systems—Econ. 622, 625, 627
Statistics and econometrics—Econ. 231, 702, 731, 803, 831
Monetary and financial economics; money and banking—Econ. 340, 740, 847
Public finance—Econ. 765, 865
Labor and manpower economics—Econ. 660, 661, 662, 663, 861
Economic growth and development; international economics—Econ. 671, 672, 674, 870
Urban, environmental and regional economics—Econ. 688

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

Lower-Division Courses


2. Principles of Microeconomics. (3). General education further studies course. An introduction to the behavior of markets and the individual decision-makers in the economy. Also includes market structures and their performance, contemporary public policy issues, and international economics. Prerequisite: Econ. 201Q.

The Economics of Public Issues. (3). A seminar on selected topics of current interest in economics that analyzes major economic problems 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 market 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.

231. Introductory Business Statistics. (4). An introduction to statistical inference, estimation, and hypothesis testing. Includes summary measures, probability, random variables and their distributions, sampling distributions, elements of Bayesian decision theory, linear regression and correlation, and time series analysis. Uses commercial statistical packages to perform statistical data analysis. Prerequisite: Math. 109, 111, or 112.

3. Entrepreneurship and Personal Enterprise. (3). General education issues and perspectives course. Demonstrates that the ascribed attributes and personal qualities that traditionally have characterized the entrepreneur (initiative, investment, innovation, commitment, and risk-taking) can be learned by anyone who seeks personal intellectual fulfillment and/or business success. Knowledge of entrepreneurial principles and processes are invaluable in any academic discipline as well as for those in quest of desired career goals.


Upper-Division Courses

301. Intermediate Macroeconomics. (3). Introduces the concepts of aggregate demand and aggregate supply. After developing theoretical foundations for these, policy applications are discussed, including such policy issues as unemployment, inflation, government and international trade deficits and interest rates. Prerequisites: Econ. 201Q, 202Q and junior standing.

302. Intermediate Microeconomics. (3). Theory of resource allocation by means of prices and markets. Economic choice, production, cost, supply, demand and market structure are discussed, as well as efficiency conditions in consumption, production, distribution and exchange. Prerequisites: Econ. 201Q, 202Q and junior standing.

304. Managerial Economics. (3). Applies concepts from microeconomic theory to problems in business management and decision-making. Includes demand analysis, pricing, production costs, effects of market structure on business decision-making, and decision-making with risk. Prerequisites: Econ. 202Q and 231.

340. Money and Banking. (3). A study of the financial sector of the U.S. economy, emphasizing the role of money in determining inflation, interest rates, and the level of economic activity. Includes the commercial banking and Federal Reserve systems, credit markets, interest rate theory, and monetary policy. Prerequisites: Econ. 201Q and junior standing.

403. Business and Economics Forecasting. (3). An application of statistical method to business and economics forecasting using real world data. Includes collection of data, survey of basic forecasting indicators, and application of forecasting techniques such as moving averages, smoothing, regression, time series decomposition, and ARIMA. Prerequisites: Econ. 201Q, 202Q, 231, 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/Nr only. Prerequisites: junior standing, departmental consent, and 2.75 GPA in economics.

Courses for Graduate/Undergraduate Credit

605. History of Economic Thought. (3). A critical analysis of economic thought, the factors that influence this thought and its impact upon the social and economic development of the modern world. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.

614. Industrial Economics and Antitrust Policy. (3). Examines the behavior of firms within industries emphasizing antitrust policy. Includes pricing behavior, distribution policies, entry deterrence, advertising, and mergers. Prerequisites: Econ. 202Q and junior standing.

615. Economics of Transportation. (3). A study of how businesses can effectively use transportation both nationally and internationally. Includes the physical and economic characteristics of transportation modes, basic concepts of logistics, and problems and policies related to transportation. Prerequisites: Econ. 201Q and 202Q, or Econ. 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 utilities and communications and the newer forms of regulation, such as safety and environmental regulations. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.


625. Economic History of Europe. (3). Crosslisted as Hist. 614. An analysis of the development of economic institutions; the rise of capitalism and its influence on overseas expansion, technology, preciosities of wealth, and welfare changes in economic ideologies, and cultural effects of economic change. Prerequisites: Econ. 201Q and junior standing.
627. Economic History of the United States. (3). Cross-listed as Hist. 515. An analysis of the basic factors in economic growth. Explores agriculture, trade and commerce; industrial development; and the changing role of the government in economic activity. Prerequisites: Econ. 201Q and junior standing.

660. 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.

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

662. Work and Pay. (3). Investigation of the economic aspects of work and pay emphasizing the nature of work under capitalism and the manner in which wages are determined. Covers quality of work life, labor force participation and mobility, labor market discrimination, and labor market contracts and work incentives. Prerequisites: Econ. 201Q and 202Q, or Econ. 800, and junior standing.

663. Economic Insecurity. (3). Cross-listed as Geron. 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. 201Q, 202Q, or 800, or instructor's consent; junior standing.

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

672. International Economics and Business. (3). A survey of the economic foundations of international trade, finance, and investment. Includes foreign exchange markets, regional integration, trade theories and instruments, U.S. trade policies and treaties, multinational companies, immigration, as well as differences in cultural, political, and economic systems. Includes current events. Prerequisites: Econ. 201Q, 202Q, or 800, and junior standing.

674. International Finance. (3). Cross-listed as Fin. 625. A study of the international financial and monetary system, emphasizing currency markets. Examines market instruments and techniques, including synthetic and derivative securities and their application to management of currency risk in international trade and finance. Prerequisites: Fin. 340, Econ. 201Q, 202Q, or 800, and junior standing.

688. Urban Economics. (3). Cross-listed as P. Adm. 688. 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. Applied Econometrics I. (3). A study of regression techniques including logit/probit analysis through business, finance, and economics examples. Reviews the fundamentals of statistics and covers practical model building, data collection, use of statistical software packages, interpretation of regression results, and various diagnostic tests. Prerequisites: Econ. 231 and junior standing.

740. Monetary Problems and Policy. (3). An examination of historical and contemporary monetary issues in the context of the global economy. Prerequisites: Econ. 201Q, 202Q, or 800, 340; and junior standing.

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

765. Public Sector Economics. (3). Cross-listed as P. Adm. 765. An analysis of public sector institutions and decision making in the public sector of the American economy. Prerequisites: Econ. 201Q, 202Q, or 800, 340; and junior standing.

780. 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.


802. Microeconomic Analysis. (3). An analysis of the consumer, the firm, and competitive and noncompetitive markets using mathematical models. Prerequisite: Econ. 302.

803. Analysis of Business Conditions and Forecasting. (3). An intensive study of research methodologies and forecasting for real life business decision making. Covers formulation of research questions, specification of models, collection of time series and survey data, applications of forecasting techniques, and interpretation and communication of the results. Prerequisites: Econ. 800 or equivalent and one semester of introductory statistics.

804. Managerial Economics. (3). A survey of theoretical and analytical tools of economics that are useful in decision making by managers. Prerequisites: Econ. 201Q, 202Q, or 800, and one course in calculus.

831. Applied Econometrics II. (3). Introduces the maximum likelihood estimation and the methods of moments estimation technique. Covers SUR, panel data, simultaneous equations, VAR, and ARCH/GARCH models. Emphasizes the time series model building commonly practiced in finance and macroeconomics. Prerequisites: Econ. 731 and 702 or equivalent.

847. Speculative Markets. (3). Cross-listed as Fin. 822. Analysis of the markets for speculative securities such as futures, options and commodities. Evaluates underlying theories explaining speculative markets in which such securities are traded. Discusses trading strategies such as hedging and arbitrage. Prerequisite: Fin. 840 or equivalent.

851. 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. International Finance and Investment. (3). Cross-listed as Fin. 820. A case study of the contemporary and business related issues of international finance and investment. Includes foreign exchange markets, European integration, international trade organizations and monetary systems, and emerging markets. Prerequisites: one of the following courses: Econ. 672 or 674, Mgmt. 561, or Fin. 625.

891. Directed Study. (1-3). Individual study of various aspects of 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 Entrepreneurship
Lower-Division Courses
160Q. Introduction to Entrepreneurship. (3). 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.
250. Entrepreneurship and Personal Enterprise. (3). Demonstrates that the ascribed attributes and personal qualities that traditionally have characterized the entrepreneur (initiative, investment, innovation, commitment, and risk-taking) can be learned by anyone who seeks personal and intellectual fulfillment for academic success. Knowledge of entrepreneurial principles and processes are invaluable in any academic discipline as well as for those in quest of desired career goals.

Upper-Division Courses

320. Principles of Entrepreneurship. (3). A fundamental course which provides a broad overview of the entrepreneurship discipline. Includes entrepreneurial history, its theoretical foundations, principles of venture creation, development, management, and final exit/harvesting of the firm. The start-up process includes pre-start-up research, determination of ownership, and final preparation before the opening and initial launch of the business. Individual processes explored include entrepreneurial mentality and attitudes and organizational behaviors such as managing innovation, change, and growth in a rapidly growing firm. Includes women and minority entrepreneurial issues, international entrepreneurship, TQM, and family business issues. Prerequisite: junior standing or instructor’s consent.

320. Developing a New Venture Marketing Plan. (3). Cross-listed as Mkt. 420. Emphasizes the tools used in the identification of opportunity and subsequent development of the business concept by either starting one’s own business or by purchasing an existing business or a franchise. The business will be researched and developed to the point of launching the new venture. Develops a marketing plan that positions the venture to achieve a competitive advantage in the marketplace. Includes both primary and secondary research to estimate market potential, competitiveness in a given geographical market place, analysis of industry trends, and environmental threats and opportunities. The analysis results in the creation of strategy and tactics for the venture’s launch. Prerequisites: Entre. 320, Mkt. 300, or concurrent enrollment, or instructor’s consent.

431. Cooperative Education. (1-2).

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

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

Courses for Graduate Students Only

812. Introduction to Total Quality Management. (3). Cross-listed as Mkt. 812 and Mgmt. 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 concepts.

856. 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 corporate feasibility study. Covers (1) sources of capital, such as venture capitalists, investment bankers, banks, and creative forms of financing; (2) marketing opportunity analyses; (3) plan development; (4) feasibility decision making; and (5) actual preparation of the loan package. Prerequisites: Accet. 800 or its equivalent, or instructor’s consent. 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. Examines principles 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 forced ideation methods; (5) “entrepreneurship—the need for it, definition, methods, favorable environment, and rewards; (6) examples of entrepreneurship; (7) entrepreneurial strategies, policies, and practices for organizations; and (8) the entrepreneurial society, a growing way of life.

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). Management of the cash flows experienced by individuals and families. Analysis of alternative strategies to meet individual financial goals through various investment media emphasizing 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.

150. 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 contemporary issues facing the U.S. commercial and banking system. Content varies according to the timeliness of various issues. 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.

481. Cooperative Education. (1-2).

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 and junior standing.


621. Security Analysis and Portfolio Management. (3). Comprehensive study of methods of analyzing major types of securities, including market behavior analysis. Explores the formulation of investment objectives, the design of portfolios for classes of institutional and individual investors and portfolio theory. Prerequisites: Fin. 340 and junior standing.

622. Futures and Options Markets. (3). Presents an overview of the futures and options market. Discusses basic theoretical concepts as well as the practical issues of hedging and speculating in these markets. Prerequisites: Fin. 340 and junior standing.

625. International Financial Management. (3). Cross-listed as Econ. 674. A study of international financial and monetary systems, emphasizing currency markets. Also examines market instruments and techniques, including synthetic and derivative securities and their application to management of currency risk in international trade and finance. Prerequisites: Fin. 340; Econ. 201Q, 202Q, or 800; and junior standing.

630. Financial Institutions. (3). A study of the management, structure, regulation, and operations of banks 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 and junior standing.

631. Money and Capital Markets. (3). A study of domestic and international financial markets, instruments, and institutions and the determinants of the interest rates and security prices. Also covers management of interest rates and portfolio risk using a variety of techniques. Prerequisites: Fin. 340 and junior standing.

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. 340 and junior standing.

660. Cases in Finance. (3). An exploration of the problems and operations for which the financial officer is responsible, emphasizing controversial aspects of financial analysis. This is the capstone course in the finance major and should be taken at the end of a finance program. Prerequisites: Fin. 340 and 440, six hours of accounting, or departmental consent, and junior standing.

690. Seminar in Selected Topics. (1-6). Repeatable with departmental consent. Prerequisites: Fin. 340 and junior standing.

750. Workshop in Finance. (1-4). Prerequisites: Fin. 340 and junior standing.

Courses for Graduate Students Only


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. International Finance and Investment. (3). Cross-listed as Econ. 870. Case study of the contemporary and business-related issues of international finance and investment. Includes foreign exchange markets, European integration, international trade organizations and monetary systems, and emerging markets. Prerequisite: one of these courses: Econ. 672 or 674, Mgmt. 561, or Fin. 625.


822. Risk Management with Options and Futures. (3). Cross-listed as Econ. 847. Discusses the use of futures and options contracts in managing some of the risks associated with business and investment. Also discusses theoretical issues to provide a basis for understanding the practical uses of these securities. Prerequisite: Fin. 840 or equivalent.

830. Financial Institutions and Markets. (3). Examines the management and operations of banks in the financial services industry. Studies the competitive money and capital markets in which they operate. Emphasizes risk management in the financial institution using a variety of techniques. Prerequisite: Fin. 840 or equivalent.

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

850. Managerial Finance. (3). Provides knowledge and tools to make informed investment and financing decisions. Includes 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. Prerequisite: Fin. 840 or equivalent.

860. Cases in Financial Management and Investments. (3). An integrated treatment of basic business finance, financial management, financial statement analysis, and financial institutions. Prerequisite: Fin. 840 or equivalent.

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. Prerequisite: Fin. 840.

891. Directed Studies. (1-6). Prerequisite: Fin. 840 and departmental consent.

893. Special Project in Finance. (1-4). A special project including original case research supervised internships or field research. Prerequisite: approval of the MS committee. Open only to MS in business degree candidates. Prerequisite: Fin. 840.


Human Resource Management

Department of Management

Lower-Division Course

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

Upper-Division Courses


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 HRM courses.

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

Courses for Graduate/Undergraduate Credit

664. 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. Includes an analysis of the impact of federal and state anti-discrimination legislation on selection practices; as well as human resource planning; recruiting; job analysis; and selection techniques, including testing and interviewing. Also validation of selection techniques. Prerequisite: HRM 466 or instructor's consent.

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 instructor's consent.

669. Training and Development. (3). Analyzes the training and development function as applied in private and public sector organizations. Considers 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. Prerequisite: HRM 466 or instructor's consent.

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: HRM 466 or instructor's 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 job evaluation and other procedures that lead to the development of a sound wage and salary structure. Prerequisite: HRM 466 or instructor's consent.

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

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


International Business Department of Management

Upper-Division Courses

390C. International Purchasing. (1-3). Cross-listed as DS 390C. Repeatable with departmental consent.

491. International Business Independent Study. (1-5). Offered Cr/NCr only. Prerequisites: junior standing and 2.750 GPA.

492. International Business Internship. (1-3). Offered Cr/NCr only. Prerequisites: junior standing and 2.750 GPA.

Courses for Graduate/Undergraduate Credit

600. International Management. (3). Studies management concepts and practices applicable to business operations 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.

601. International Marketing. (3). Cross-listed as Mkt. 601. 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.

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

Lower-Division Courses

330. Introduction to Paralegalism. (2). 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 130Q, concurrent enrollment or departmental consent.

231A. Legal Research and Writing I. (3). An introduction to the tools and techniques of legal research, emphasizing 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.

232. Legal Aspects of Business Organizations. (3). The law of business organizations emphasizing the practice 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 emphasizing the practice aspects associated with a civil action. Includes 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, emphasizing 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. Prerequisites: admission to the Legal Assistant Program or departmental consent and Legal 233.

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. (2). Internship training in a law office, corporate law department, or government agency. Offered Cr/NCr only. Prerequisites: 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 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. Prerequisites: admission to the Legal Assistant Program or departmental consent and Legal 231A.

243. Property Law. (3). An introduction to the principles of property law emphasizing 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 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.

Management

Department of Management

Lower-Division Courses

101G. Introduction to Business. (3). Everyone spends a lifetime dealing with and being influenced by business firms. Introduces students to current issues, concepts, and functions of business and its environment.

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

Upper-Division Courses

360. Management and Organizational Behavior. (3). An overview of concepts, theories, and practices that apply to the management of work organizations. Includes organizational goals, corporate strategy, structure, decision making, leadership, motivation, communication, group dynamics, organizational change, and the international dimension of business. Prerequisite: junior standing.

361. Management and Organizational Behavior. (3). An overview of concepts, theories, and practices that apply to the management of work organizations. Includes organizational goals, corporate strategy, structure, decision making, leadership, motivation, communication, group dynamics, organizational change, and the international dimension of business. Prerequisite: junior standing.

362. Managing People in Organizations. (3). Studies why individuals behave the way they do in organizations. Discusses concepts such as personality, motivation, group dynamics, conflict, leadership, and organizational dynamics, emphasizing developing skills to manage behavior for maximum organizational effectiveness. Prerequisite: junior standing.

363. Coaching, Developing, and Mentoring. (3). A study of theories of human motivation and adaptation of these theories to programs in organizations. Probes concepts of authority and delegation and analyzes leadership styles. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

364. Communicating Effectively in Organizations. (3). An examination of the design of organizational communication systems. Includes an introduction to communication models and the analysis of the interpersonal communication process. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered Cr/NoCr only. Closed to graduate credit. Prerequisite: junior standing and 2,750 GPA in management.

492. Internship in Management. (1-3). Offered Cr/NoCr only. Prerequisite: junior standing and 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. Studies international trade, theory, and policy (the international economy), then explores the operations of the multinational firm within that environment. Prerequisites: Econ. 202Q and junior standing.

560. Designing Effective Organizations. (3). Studies how work and workers can be structured to best accomplish the goals of an organization. Explores the interplay of design, technology, strategy, and environment, and discusses frameworks that promote growth, market responsiveness, innovation, and global competitiveness. Emphasizes skills necessary for managing change for maximum effectiveness of individuals, work groups, and the organization as a whole. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

561. Coaching, Developing, and Mentoring. (3). Managers and leaders of all kinds are judged not on what they do but upon how well their subordinates perform. Course develops positive, supportive management skills for helping individuals and groups achieve their potential. Covers the importance of identifying and hiring superior performers, orienting them to the group, coaching and developing subordinates to their fullest, maintaining motivation at high levels, and merging individuals into a cohesive group. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

562. Managing Workplace Diversity. (3). Modern organizations face the challenge of managing employees with diverse backgrounds and talents to provide products and services to diverse customers. Course examines work force diversity from the perspective of maximizing its benefits to group and organizational effectiveness, including developing skills to facilitate the constructive resolution of conflict, encouraging cooperation and teamwork, and enhancing identification with the work unit. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

563. Building Effective Work Teams. (3). Significant changes in the business environment have motivated widespread support for the use of teams to accomplish work-related tasks. Course promotes an understanding of the organizational context of a team culture through an analysis of how teams form and group processes that enhance goal accomplishment. Emphasizes skills necessary to manage the organization’s culture, improve group performance, and increase collaboration among team members. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

560. Making Effective Decisions. (3). A study of the theories of decision making with attention to the factors of creativity, the quest for subjective certainty, rationality, cognitive bias, problem identification, evaluation of alternatives, applications of qualitative methods to decision processes, and decision implementation. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

561. 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.

562. Managing Workplace Diversity. (3). Modern organizations face the challenge of managing employees with diverse backgrounds and talents to provide products and services to diverse customers. Course examines work force diversity from the perspective of maximizing its benefits to group and organizational effectiveness, including developing skills to facilitate the constructive resolution of conflict, encouraging cooperation and teamwork, and enhancing identification with the work unit. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

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561. 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.

562. Managing Workplace Diversity. (3). Modern organizations face the challenge of managing employees with diverse backgrounds and talents to provide products and services to diverse customers. Course examines work force diversity from the perspective of maximizing its benefits to group and organizational effectiveness, including developing skills to facilitate the constructive resolution of conflict, encouraging cooperation and teamwork, and enhancing identification with the work unit. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

563. Building Effective Work Teams. (3). Significant changes in the business environment have motivated widespread support for the use of teams to accomplish work-related tasks. Course promotes an understanding of the organizational context of a team culture through an analysis of how teams form and group processes that enhance goal accomplishment. Emphasizes skills necessary to manage the organization’s culture, improve group performance, and increase collaboration among team members. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

680. Making Effective Decisions. (3). A study of the theories of decision making with attention to the factors of creativity, the quest for subjective certainty, rationality, cognitive bias, problem identification, evaluation of alternatives, applications of qualitative methods to decision processes, and decision implementation. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing.

561. 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.

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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 Entre. 812 and Mkt. 812. Introduces the philosophy of quality improvement and compares/contrasts these views with traditional management thought. Also introduces the basic components of the total quality management process. Includes application exercises in quality improvement techniques and experience with team concept.

836. International Business Administration. (3). An introduction to international business administration with particular attention to the development of multinational business strategies in light of the diverse economic, political, social, and cultural dimensions of the environments 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. Applies concepts such as motivation, personality, interpersonal relations, upward management, conflict management, and leadership to organizational settings, emphasizing 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.

869. Research in Behavioral Science. (3). An analysis of some of the concepts and tools in behavioral science 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 course work to focus on a firm's ability to develop a sustainable competitive advantage. Firms studied represent a broad range of manufacturing and service, global and domestic, entrepreneurial and mature issues. Prerequisite: To 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). A special project including original case research, supervised internships or field research. Prerequisite: Approval of the MS Committee. Open only to MS in business degree candidates.


Management Information Systems

Department of Finance, Real Estate, and Decision Sciences

Lower-Division Course

200. Fundamentals of Programming and Programming Languages. (3). Introduces computer programming concepts, structured programming techniques, and programming languages. Starts with an overview of computer architecture and introduces computer programming in machine language, assembly language, third generation languages (BASIC, Pascal, C), and fourth generation languages (Visual BASIC, DELPHI). Programming projects emphasize modification and maintenance of existing business application programs. Prerequisite: Accr. 260 or CS 150.

250. Fundamentals of Data Structures, File Design, and Access. (3). Introduces data structuring concepts necessary for building business application systems. Utilizes file design and access applications as the vehicle to teach traditional concepts of in-memory data structures. Programming projects employ third generation languages, including COBOL, as well as fourth generation languages. Studies computer file organizations ranging from sequential to indexed sequential. Prerequisite: MIS 200.

Upper-Division Course

300. Data Communications and Computer Networks. (3). Takes a problem-solving approach to introducing data communications and computer networking concepts. Technical and managerial issues in providing video conferencing, Electronic Data Interchange (EDI), setting a bulletin board system, a world wide web site, a local area network (LAN), remote access to a LAN, and internet working LANs over a wide area network provide the backdrop for introducing data communication concepts (OSI), standards (X.400, SNMP), protocols (TCP/IP), and technologies (ATM). Prerequisite: MIS 250.

350. Systems Analysis and Design. (3). Introduces various methodologies for systems analysis, design, and implementation. Examines application development in the context of the overall MIS Master Planning effort; examines techniques related to business process reengineering. Uses a real-life project as the vehicle to put into practice tools and techniques related to interviewing, cost/benefit analysis, computer-aided software engineering, software project management, and system documentation. Prerequisite: MIS 300.

481. Cooperative Education. (1-3). Offered Cr/NCR only. Prerequisites: 2.50 grade point average in MIS, junior standing, and departmental consent.

492. Internship in MIS. (1-3). Offered Cr/NCR only. Prerequisites: 3.00 grade point average in MIS, senior standing, and departmental consent.

493. Directly Directed Study. (1-3). Individual study for Cr/NCR only. Prerequisites: 2.75 grade point average in MIS, junior standing, and departmental consent.

494. Directed Study. (1-3). Individual study for Cr/NCR only. Prerequisites: 2.50 grade point average in MIS, junior standing, and departmental consent.

Marketing Department of Marketing and Entrepreneurship

Lower-Division Course

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

Upper-Division Courses

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


403. Marketing Research. (3). A study of the design of marketing information systems and marketing research procedures. Prerequisites: Mkt. 300, Econ. 251, and junior standing.

404. Retail Management. (3). An examination of the essential principles and practices of retail business management, 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 nonprofit organizations. Evaluates marketing concepts and appropriate marketing programs from the perspective of these organizations. Prerequisites: Mkt. 300 and junior status.

420. Developing a New Venture Marketing Plan. (3). Cross-listed as Entre. 420. Emphasizes the tools used in the identification of opportunity and subsequent development of the business concept by either starting one's own business or by purchasing an existing business or a franchise. The business will be researched and developed to the point of launching the new venture. Develops a marketing plan that positions the venture to achieve a competitive advantage in the market place. Includes both primary and secondary

shells, and EIS software to undertake several DSS implementation projects. Prerequisite: Mkt 600.

696. Management of the IS function. (3). Addresses the issues of managing the information systems (IS) function. Includes the role of IS as a corporate entity, organizing the IS department, IS personnel management, IS project management, and the role of IS as a user-support entity. Prerequisite: MIS 650.

Marketing Department of Marketing and Entrepreneurship

Lower-Division Course

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

Upper-Division Courses

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


403. Marketing Research. (3). A study of the design of marketing information systems and marketing research procedures. Prerequisites: Mkt. 300, Econ. 251, and junior standing.

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Marketing Department of Marketing and Entrepreneurship

Lower-Division Course

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

Upper-Division Courses

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


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shells, and EIS software to undertake several DSS implementation projects. Prerequisite: Mkt 600.

696. Management of the IS function. (3). Addresses the issues of managing the information systems (IS) function. Includes the role of IS as a corporate entity, organizing the IS department, IS personnel management, IS project management, and the role of IS as a user-support entity. Prerequisite: MIS 650.
research to estimate market potential, competitiveness in a given geographical market place, analysis of industry trends, and environmental threats and opportunities. The analysis results in the creative strategy and tactics for the venture’s launch. Prerequisites: Entre. 320, Mkt. 300, or concurrent enrollment, or instructor’s consent.

481. Cooperative Education. (1-2).

491. Independent Study. (1-5). Offered for Cr/Ncr only. Closed to graduate credit. Prerequisite: 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). Cross-listed as IB 601. 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). Cross-listed as Entre. 606. 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. Prerequisite: Mkt. 300.

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.

608. Selling and Sales Force Management. (3). Cross-listed as Entre. 608. An analysis of current behavioral concepts of personal selling and the problems and policies involved in managing a sales force. Prerequisites: Mkt. 300.

609. Marketing Programs. (3). A study of all the aspects of the marketing mix that are integrated to make an effective and coordinated marketing program. Prerequisites: Mkt. 300 and six additional hours of marketing.

690. Seminar in Selected Topics. (1-5). 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 business 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, conveying, 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 for 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 for 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.

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

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. Prerequisites: 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 business degree candidates.

College of Education

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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. 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, the National Council for the Accreditation of Teacher Education, the American Speech/Hearing Association, and the National Association of School Psychologists. The college recommends appropriate teacher’s certificates be awarded to those who complete requirements established by the board.

The college also provides a non-teaching major in the area of health and physical education. Students may select one of two approved options: exercise science or sport administration. The option in exercise science prepares students to help people of all ages and abilities reach their fitness goals. The sport administration option allows students to take a combined curriculum in physical education and business.

Wichita State University and the College of Education offer a variety of services to students through the programs of the Learning Resource Center. Courses are offered to help students improve their reading comprehension and speed, critical thinking skills, library skills, study strategies, and standardized test-taking skills.

 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.

The programs in kinesiology and sport studies 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. The program in school psychology leads 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, special education, and sport administration.

Graduate courses are offered to meet state requirements for certification or endorsement as audiologists, early childhood teachers, educational administrators, middle-level teachers, reading specialists, school counselors, school psychologists, special education teachers, speech and language pathologists, English as a second language, bilingual/multicultural education, 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 2.000 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 (GPA) and a WSU GPA of at least 2.500.
2. The 24 hours must include Engl 101 and 102, College English I and II, with a grade of C or above, Comm. 111, Public Speaking, with a grade of C or above, and Math. 111, 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 (check sheet) in effect when they are admitted into teacher education rather than the program (check sheet) 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 271, with a grade of B or better, and 272, which involves
   (a) Competency tests in reading, writing, and mathematics
   (b) Beginning field experience requirements.
2. Complete 35 hours of general education courses with a minimum grade point average of 2.750 on the 35 hours.
3. Earn a grade of C or better in Engl. 101 and 102, College English I and I; Comm. 111, Public Speaking; and Math. 111, College Algebra.

4. Complete a second course in mathematics above College Algebra. Stat. 370 may be chosen in Division D of the General Education Program.

To remain in good standing in the teacher education program requires a grade point average of at least 2.500 in all courses on the student’s WSU academic plan and for all work taken at WSU. Demonstrated suitability for professional practice, as determined by the teacher education faculty, is also a consideration for remaining in good standing in the teacher education program leading to certificates or endorsements indicating professional practice or achievement.

Enrollment Limits
Students enrolled in the College of Education may not enroll in more than 21 semester hours of work per semester during the academic year. Summer Session enrollments are limited to a maximum of six hours for each four-week session or 12 hours during the Summer Session. Students who have completed at least 24 hours at WSU with a WSU grade point average of 3.000 or 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 2.000 (C) average. Students are placed on academic probation whenever they have attempted six hours and their WSU grade point average falls below 2.000. 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 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 2.000 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 not 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 readmissions counseling session at least five days before the first day of enrollment of the semester for which they wish to be readmitted.

Students develop their own cases for readmission. They should center their petitions around 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.

Professional Development School Opportunity
A Professional Development School (PDS), a collaboration between school and University faculty and staff, supports effective teaching practices, integration of intern and teacher learning with instructional programs, collegiality, inquiry, and dissemination of new knowledge. This design provides an environment which mixes the best of theory, research, and practice and provides an exciting alternative to the current teacher education program. In the PDS program, students spend 10 to 12 hours a week at one of the PDS complexes (either the elementary, middle school, or high school). The eight professional courses plus a portion of elective hours are delivered at the complex. Students interested in applying for the program should contact the chairperson of the Department of Curriculum and Instruction.

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 (check sheet) in effect when they are admitted into teacher education rather than the program.
anthropology, economics, geography, minority studies, political science, psychology, sociology, or an Issues and Perspectives course**. College of Education students must choose Psy. 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 Fall 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 Catalogs.

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 have Psy. 111. Students seeking teacher certification must also take Stat. 370 or any higher-level math course.

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 271, Introduction to Professional Education 2
CI 272, Field Experiences/Preprofessional Block 1
CESP 728, Theories of Human Development 3
CI 702, Introduction to Exceptional Children 3
CI 711, Multicultural Education 3

In addition to the general education requirements and the professional education sequence, students must complete the requirements for the major. Students should work closely with a faculty advisor in the College of Education to be sure they meet certification and degree requirements. A check sheet 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, a biological science and/or a physical science are required (one must include a lab), along with Math. 501.

II. Professional Education
Preprofessional Block
Course
Hrs.
CI 271, Introduction to Professional Education 2
CI 272, 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

Block II
CESP 433, Learning and Evaluation 3
CI 328, Curriculum, Instruction, and Management 5
CI 312, Field Experience/Block II 1
III. Elementary Specialization
In addition to the general education requirements and 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 advisor in the College of Education to be sure they meet certification and degree requirements. A check sheet 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 that follows. Only those specialties listed among the combined curricula and departmental majors and minors in the majors and minors section may be counted.

III. Professional Education
The following courses are required:

Preprofessional Block

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI 271, Introduction to Professional Education</td>
<td>2</td>
</tr>
<tr>
<td>CI 272, Field Experience/Preprofessional Block</td>
<td>1</td>
</tr>
</tbody>
</table>

For majors in foreign language, math, science, social studies, English

Block I

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CESP 334, Growth and Development</td>
<td>2</td>
</tr>
<tr>
<td>CI 430, Social/Multicultural Education</td>
<td>3</td>
</tr>
<tr>
<td>CI 320, Introduction to Exceptional Child</td>
<td>1</td>
</tr>
<tr>
<td>CI 311, Field Experience/Block I</td>
<td>1</td>
</tr>
</tbody>
</table>

Block II

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CESP 433, Learning and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>CI 328, Curriculum, Instruction, and Management</td>
<td>5</td>
</tr>
<tr>
<td>CI 312, Field Experience/Block II</td>
<td>1</td>
</tr>
</tbody>
</table>

In addition to the general education requirements, the professional education sequence, and the requirements for the major, secondary students must complete the pre-student teaching and the student teaching requirements. Students should work closely with a faculty advisor in the College of Education to be sure they meet certification and degree requirements. A check sheet of requirements is available in the College of Education.

For majors in music education
For other requirements, see Music Education, College of Fine Arts.

For majors in art education
For other requirements, see Art Education, College of Fine Arts.

For majors in foreign languages
For other requirements, see Modern and Classical Languages and Literatures, Fairmount College of Liberal Arts and Sciences.

Secondary Teaching Fields
The major is generally no fewer than 30 semester hours. (For specific exceptions see languages and the combined curricula programs.) Students may elect certain of the majors offered in Fairmount College of Liberal Arts and Sciences, the College of Fine Arts, or the College of Education. Students meet the specific course requirements of the department in which the major is offered. For example, students may elect to major in foreign language because they wish to become high school foreign language teachers. To do so, they complete the foreign language major as prescribed by the modern and classical languages and literatures 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 advisor 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 is made with an academic advisor 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*  
English language and literature*  
Foreign language  
French  
Spanish  
Mathematics  
Music*  
Physical education  
Science*  
Chemistry  
Natural sciences—biological  
Natural sciences—physical  
Physics  
Minor Only  
Bilingual/multicultural education  
Computer studies  
English as a second language  
Journalism  
Speech communication

* Needs no minor.

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 advisors 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 and general science as well as 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.

Administration, Counseling, Educational and School Psychology
The Department of Administration, Counseling, Educational and School Psychology offers courses at the undergraduate level taken by students both in and outside of the College of Education. In addition, the department offers programs leading to the Master of Education (MEd) in administration, the MEd in counseling, the MEd in educational psychology, the Specialist in Education (EdS) in school psychology, and the Doctorate of Education (EdD) in educational administration.

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

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 CI 311, 430, 601.

333. 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, CI 311, 320, 430.

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.

490. Independent Studies. (1-3).

Courses for Graduate/Undergraduate Credit

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. Prerequisites: graduate standing in the department and department chairperson approval. No more than 3 credit hours will be allowed in one Plan of Study. Repeatable for credit. Offered C/R/NO.

701. 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.

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, correlated t test, and one way and two-way analysis of variance.

707. Child Abuse and Neglect. (1). Acquaints students with the etiological factors, potential indicators, consequences, reporting procedures, and treatment strategies associated with child abuse and neglect.

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 701 or equivalent, or instructor's consent.

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 department consent.

750. Workshops. (1-4).

752. Special Studies in Education. (1-5). 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

802. Introduction to Interaction Process. (1). S/U grade only. 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. Prerequisite: counseling major or departmental 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 philosophy focusing on a study of the helping relationship and the services that are part of school, agency, and other institutional settings. Prerequisite: admission to counseling program.


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, group guidance, and consultation in the school setting. Prerequisites: CESP 701, 704, 828, 803, 804.


815. Career Development. (3). For master's level students interested in assisting students and adults in career development and related concerns. Covers (1) career development of individuals across lifespan, (2) sources and organization of information, (3) assessment designs and career intervention techniques, and (4) career decision-making/planning processes. Includes hands-on experience with a variety of assessment methods and intervention techniques and theory-based career decision-making strategies for career interventions. Prerequisites: CESP 701, 704, 828, 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 701 or departmental consent.

821. Multicultural Issues in Counseling. (2). Acquaints students with belief and behavior differences which are often the source of conflicts among people of various cultures. Prerequisites: CESP 701, 704, 802, 803, 804; or instructor's consent.

822. Psychometric Procedures in Counseling. (3). Survey and study of standardized tests and their application in counseling, emphasizing their selection, use, and interpretation. Studies the basic concepts pertaining to the interpretation of psychological tests and inventories, including basic measurement theory and the factors involved in the selection of tests. Prerequisites: CESP 701 and 704; counseling students must also have CESP 802, 803, 804.

823. Experimental Design in Educational Research. (3). A consideration of sampling theory, design for testing hypotheses about populations from samples, testing correlation coefficients, means and differences between means, simple factorial designs, designs involving matched groups, designs involving repeated measures of the same group, and analysis of covariance. Prerequisite: CESP 704.

824. Techniques of Counseling. (3). Examines and practices techniques of counseling through simulated counseling situations and extensive examination of counseling case studies. Prerequisites: CESP 728, 821, 822, Psy 940, and counseling major or departmental consent.

825. Group Counseling Techniques. (2). Examines different kinds of groups, group selection, communication patterns in groups, and issues to be addressed in group settings. Prerequisites: CESP 821, 822, and counseling major or departmental consent.

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.


837. Family Issues in Counseling. (2). Teaches basic family processes and how they impact the growth and development of children and adolescents. Covers family systems theory, the family life cycle, cultural and social influences on families, healthy family functioning, the impact of substance abuse on the family, and the unique challenges faced by single parent and blended families. Presents basic family assessment and therapy techniques. Prerequisite: graduate standing.

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.

853. Law, Ethics, and Multicultural Issues for School Psychologists. (3). For school psychologists and practicing school psychologists. Covers issues of legislation, litigation, professional ethics, and cultural diversity that impact the practice of school psychology. Prerequisite: admission to the school psychology program or instructor's consent.

855. Individual Intelligence Assessment. (3). Use of individual tests for appraisal of intelligence, adaptive behavior, and learning styles. Considers research and clinical theory in a lecture-discussion format, which includes some case simulation and practice activities. Prerequisites: CESP 822 and instructor's consent.

856. Counseling Practicum. (3). Supervised practice in counseling. Requirements include at least 60 hours applied experience. Repeatable for credit. Prerequisites: CESP 824, 825, coordinator's consent, and counseling major or departmental 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, or concurrent enrollment.

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 assessment theory and research relevant to these areas in a lecture discussion format which includes some case simulation 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 860.

866. Practicum in Guidance Services. (2-3). Supervised practice in administration, test interpretation, group counseling, and other activities of the department. Prerequisites: CESP 833 or 810 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 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. Stresses individual and organizational effectiveness assessment skills.

926. Seminar: Selected Topics. (2). Intensive study of current issues, techniques, research, and application of the selected topic. Repeatable for different topics for a maximum of eight hours. Prerequisite: 15 hours of related graduate course work.

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 instructor's consent.

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, 855, postmaster's standing or last six hours of master's program, and instructor's consent.

946. Practicum in School Psychology. (6 or 9). Supervised practice in school psychology, 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 Internal 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 placements 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 200 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. (1-6). Directed problems in research for EdS students under supervision of a graduate instructor. Prerequisites: CESP 701 and instructor's consent.

Educational Administration and Supervision

Courses for Graduate/Undergraduate Credit

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 CrN/Cr.

750. Experienced Administrator’s Workshop. (1-3). Offers a variety of administrative topics.

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.

Courses for Graduate Students Only

593. Seminar: Professional Self-Assessment and Inquiry (3). Participants engage in self-assessment and readiness for becoming a school administrator. Includes discussing and learning issues and techniques for measurement in the cognitive, affective, and psychomotor domains. Also reviews the basics of educational research, the nature of research methodologies, and methods for the preparation of research reports.

805. Practicum: School Opening 1. (1). Participants engage in preparing to open their school for the fall semester with their principal/mentor; participate in an inquiry project in their local school; and read and critique current research literature and analyze how that research can assist in their school. Prerequisite: admission to the MEd in educational administration or instructor’s consent.

813. Seminar: Introduction to Educational Leadership and School Finance. (3). Discuss educational philosophy, personal goal-setting, and educational administration models. Includes (a) an examination of educational foundations and the major theories of administration and application to specific problems, and (b) an overview of administration in the school district, especially problems involving the management of personnel and financial resources. Review knowledge necessary to plan and organize work groups, projects, and the resources necessary to carry out day-to-day financial activities of school. Prerequisite: admission to the MEd in educational administration or instructor’s consent.

815. Practicum: Introduction to Educational Leadership and School Finance. (3). Spend time in schools identifying how major theories of administration apply to specific problems in the school and how the school operates with the district and the community. Apply financial planning concepts to the school setting and manage the day-to-day financial and other resources allocation to schools. Prerequisite: admission to the MEd in educational administration or instructor’s consent.

830. Practicum: School Closing. (1). Engage in closing the school year with a principal/mentor. Prerequisite: admission to the MEd in educational administration or instructor’s consent.

835. Practicum: School Law and Personnel Management. (3). Apply the concepts related to staffing issues, including selection and recruitment, certification, orientation, staff development, evaluation, transfer and dismissal, and retirement. Cover general concepts of law, interpretations of statutes and court decisions affecting education, and the legal responsibilities and principles as they relate to academic negotiations. Prerequisite: admission to the MEd in educational administration or instructor’s consent.

990. Special Problems in Counseling and School Psychology. (1-8). A work-related placement that integrates theory with a planned and supervised professional experience. Repeatable for credit. Offered CrN/Cr.

845. Practicum: Curriculum and Learning Theory (3). Apply the concepts of curriculum theories and development, emphasizing skills necessary to propose, implement, and evaluate various building programs. Address applications of prevailing major learning theories and principles as they relate to educational and behavioral aspects of the classroom. Prerequisite: admission to the MEd in educational administration or instructor’s consent.

982. School Law. (3). General concepts of law, interpretations of statutes and court decisions affecting education, and legal responsibilities of school personnel.

983. Seminar: Curriculum and Learning Theory (3). Examine the theoretical concepts related to curriculum philosophies and developmental processes. Examine recent programs and proposals as well as curriculum development at the building and school system levels. Review techniques of program evaluation and major learning theories and principles. Prerequisite: admission to the MEd in educational administration or instructor’s consent.

854. Finance and Facilities Management. (3). Designed for those preparing to become administrators at the school-building level. Focuses on the knowledge and skills necessary to plan and organize work groups, pro-
ffects, and the resources necessary to carry out
day-to-day functional activities of schools.
860. Research Seminar in Educational Administra-
tion and Supervision. (3). Designed for
students in advanced study. Emphasizes
development of research proposals and stud-
ies. Prerequisite: completion of master's degree
or advisor's consent.
862. Presentation of Research. (1-2). A project
submitted in thesis manuscript form. Repeat-
able for a maximum two hours of credit. Pre-
requisite: EAS 860.
884. School Plant and Facilities. (3). Plan-
ing new educational facilities based upon educa-
tional programs. Includes the evaluation of
existing schools, remodeling, and operation
and maintenance of present school plant. Pre-
requisite: master's degree or instructor's con-
sent.
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.
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.
955. Field Project in Administration and
Supervision. (2-5). Field projects are planned
to meet a legitimate need in an educational set-
ing in which the student, under professional
counsel, can become directly involved. The
project may fulfill a community need, a depart-
mental 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 commit-
tee. 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 pro-
cesses. Studies systems of control, social class,
power structure, human relations, and group
dynamics. Prerequisite: instructor's consent.
969. Technologies for Academic Writing in
Educational Administration. (3). Allows prac-
ticing administrators to gain knowledge of the
docent program process through the use of
various software packages used to collect and
analyze data in Educational Administration
and Supervision. Also introduces expectations
for academic writing at the doctoral level. Stu-
dents must own a Macintosh computer (prefer-
ably a Powerbook) and be reasonably familiar
with the Macintosh operating system,
Microsoft Excel, EndNote Plus, and Microsoft
Word. Prerequisite: admission to the EdD pro-
grain in EAS.
970. Advanced Administrative Theory Semi-
nar. (5). Examines the relationship between
theory and practice in educational administra-
tion. Participants consider various theoretical
frameworks for empirical studies, program
designs, and organizational implementation
abilities, and take initial steps toward an inte-
gration of those frameworks. Class activities
require the application of the constructs and
propositions considered to an on-going analy-
sis of school-related problems and the conceptu-
alization 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 identi-
fying, clarifying, and solving various problems
in elementary and secondary education. De-
cision-making and problem-solving models are
reviewed, critiqued, and applied. Prerequi-
ts: admission to EdD program; EAS 970 and
981, concurrent enrollment in EAS 982.
972. Administrative Leadership Seminar. (5).
Designed to facilitate in-depth investigations of
research relevant to leadership theory and
practice. Activities include clarifying and
developing personal leadership skills; identify-
ing, fostering, and supporting the leadership
skills of others; and conducting observations of
leaders in action. Prerequisites: admission to
EdD program; EAS 970 and 981, concurrent
enrollment in EAS 986.
973. Field-Based Research III. (3). Continues
EAS 981 and provides opportunities for
more sophisticated and complex field-based
studies. Prerequisite: admission to EdD pro-
grain in EAS.
978. Field-Based Research II. (3). Continues
EAS 980 and addresses the development of individualized research plans
leading to small group or individual field-
based experiences in the second year of doctor-
al study. Prerequisite: admission to EdD pro-
grain in EAS.
986. Field-Based Research I. (3). This is the
first in a sequence (Fall, Spring, Summer) that
provides opportunities for field work leading
to EdD dissertation proposal. Prerequisites:
theses, admission to EdD program; EAS 981, 982, 983,
and concurrent enrollment in EAS 972.
987. Field-Based Research II. (3). Follows EAS
986 and continues field-based research activi-
ties and development of dissertation propos-
als. Prerequisites: admission to EdD program,
EAS 986.
988. Field-Based Research III. (3). Follows EAS
986 and 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 specialist
and doctoral degree students under supervi-
sion 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 admin-
istrative position and are seeking recertifica-
tion in Kansas. Course is individually designed
by an EAS faculty member with the student and
his/her school district supervisor. Ad-
dresses the needs of the student and of the dis-
trict. Thrust is to assist the student to extend
basic skills relevant to a particular administra-
tive assignment. The student must register for
three hours of credit in EAS 991 to meet recer-
tification requirements. S/U grading only. 
Prerequisites: completion of master's degree
and departmental consent.
992. Superintendency/Internship. (6). Two-
semester course designed primarily for indi-
viduals who are completing course work to
obtain certification as a district-level admin-
istrator. Focuses on the role expectations of dis-
trict-level administrators, and includes field
experiences designed to emphasize knowledge
and skill in administrative practices and proce-
dures. Work is designed for each student's
projected administrative interest. Students
must file an application for this terminal
course.
999. Dissertation Research. (1-6). Taken con-
currently with EAS 986, 987, and 988, and for
six credits each semester during the last year of
enrollment. Provides students with disserta-
tion 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. Pre-
requisites: admission to EdD program in EAS
and required doctoral course work.

Communicative Disorders
and Sciences
The Department of Communicative Dis-
orders and Sciences provides academic and
clinical education for students at
Wichita State University who wish to
work with communicatively handicapped
children and adults. The undergradu-
ate program offers broad, compre-
sive, 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 certifi-
cation as a speech-language pathologist
or audiologist in the public schools, hospi-
tals, or rehabilitation centers, or to engage
in private practice. With an undergradu-
ate, preprofessional major, students com-
pleting the master's program will be eligi-
bale to apply for certification by the American
Speech-Language-Hearing Associa-
tion and Kansas public schools, and for
Kansas licensure. The PhD in commu-
nicative disorders and sciences prepares
individuals to function professionally as
independent clinicians, as teacher-schol-
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 practica courses or student teaching. In addition, medical clearance is required for all observation and practica classes. Admission to a major in CDS does not constitute assurance of automatic entrance into the practica 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 advisors 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.

Undergraduate Minor
A minor in communicative disorders and sciences consists of 18 hours and may be earned in either the College of Education or Fairmount College of Liberal Arts and Sciences. The following courses are recommended for a minor unless other arrangements are made: CDS 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 practica 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, students who participate in active clinical practice during the year must purchase professional liability insurance for the University 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.

General
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.

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. (1-8). Allows students to participate in the cooperative education program. Offered C/NC 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.

365. Introduction to American Sign Language. (3). Focuses on the use of American Sign Language as used by the American deaf community. Development of basic communication skills leads to basic conversational skills in ASL.

465. Conversational American Sign Language. (3). Increases vocabulary and speed of the use of ASL. Focuses on a greater fluency in expressive and receptive skills. Develops intermediate conversational skills. Prerequisite: CDS 365.

481. Cooperative Education. (1-8). See CDS 281.

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.

Courses for Graduate/Undergraduate Credit


676. Teaching English as a Second Language (Methods). (3). Discusses current methods of teaching English to nonnative speakers. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use.

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. Selected Topics in Communicative Disorders and Sciences. (1-3). 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.

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

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 pathology. 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.

804. Graduate Issues in Ethics and Practice in Communicative Disorders and Sciences. (1). Provides graduate students as future practitioners a forum to be acquainted with and to review professional clinical issues they may encounter in their careers. Covers issues such as professional ethics, parental rights, managed care, and credentialing. Important: individualized and group participation; stresses need for professionals to deal competently with issues and to understand professional responsibility related to these topics.

805. Counseling in Communication Disorders. (3). Provides information on the structure and conduct of interviews, basic counseling strategies, and consideration of the “helping” role as practiced by communication disorders professionals. Focuses on information supportive of developing effectiveness in these roles. Considers multicultural concerns.

880. Independent Study in Speech and Language Pathology or Audiology. (1-3). Arranged individual, directed study in specialized content areas in speech and language pathology or audiology. Repeatable. Prerequisite: instructor’s consent prior to enrollment.

892. 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.

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

899. Thesis. (1-2). Repeatable, but total credit hours counts toward degree requirements shall not exceed two. Prerequisite: instructor’s consent.

935. Advanced Practicum in Communicative Disorders and Sciences. (1-4). Supervised internship in one or more of the following sections: Advanced Practicum in Client Management, Advanced Practicum in Clinical Supervision, Advanced Practicum in Academic Instruction, Advanced Practicum in Research, and Advanced Practicum in Clinical and Program Administration. Intended for doctoral students or advanced master’s-level students. Repeatable; more than one section may be taken concurrently.

940. Advanced Selected Topics in Communicative Disorders and Sciences. (1-4). Advanced individual or group study in specialized areas of communicative sciences and disorders. Intended for doctoral students or advanced master’s-level students. Repeatable.

990. Independent Study in Speech and Language Pathology, Audiology, or Speech Science. (1-3). Arranged individual, directed study in specialized content areas in speech and language pathology, audiology, or speech sciences. Repeatable. Prerequisites: advanced standing and instructor’s consent.

992. Advanced Research. (1-3). A directed research project for doctoral students culminating in a manuscript appropriate for publication.

994. Seminar in Clinical Research. (3). Presentation of advanced models in research design applicable to the investigation of communicative disorders in a clinical setting. Prerequisites: CDS 800 or equivalent and competency in statistics.

995. Research Proseminar. (1). A weekly seminar of informal discussion and formal presentation of ongoing or planned research by the CDS faculty and doctoral graduate students. Goal is to provide CDS doctoral students with new and valuable knowledge and insights regarding how real world research is performed. Prerequisite: doctoral student standing.


Speech and Language Pathology

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.

Lower-Division Courses

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


Upper-Division Courses

300. Anatomy and Physiology of the Speech and Hearing Mechanisms. (3). A study of the pre-natal development and basic anatomy of the systems necessary for speech and hearing. Discusses the respiratory, phonatory, articulatory, and auditory mechanisms from a functional point of view. Prerequisite: CDS 111Q.

304. Language I: Normal Acquisition. (3). Cross-listed as Ling. 304. The study of the acquisition of language in the child from birth to six years of age. Evaluation of various acquisition theories in the light of current psychological and linguistic thought. Emphasizes the development of phonology, morphology, syntax, semantics, and pragmatics. Prerequisite: CDS 306 or concurrent enrollment.

306. Phonetics: Theory and Application. (3). Cross-listed as Ling. 306. Introduction to the International Phonetic Alphabet and its use in transcribing the sounds of American English with emphasis on the major dialects. Study of physiologic, 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.

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

419. Genetic and Organic Syndromes. (3). Introduces human genetics and the impact of chromosomal and structural anomalies of communication disorders. Assessment and remediation of cleft palate speech. Prerequisite: CDS 300.

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

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 acoustic levels emphasizing acoustics. Prerequisite: CDS 310.

510. Language III: Introduction to Diagnostical Processes. (3). Provides the principles underlying basic diagnostic processes for speech/language disorders across the life span. Teaches observation techniques, how to take case histories, beginning interviw techniques, how to administer and interpret formal and informal assessment measures. Requires observation of diagnostic procedures in the speech-language-hearing clinic. Prerequisites: CDS 416 and 514.

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

516. Language IV: Introduction to Assessment and Intervention—Birth to 8. (3). Discussion of current language intervention strategies and programs for infants, toddlers, and preschoolers, and school-age children, birth to 8 years. Examination of the development of individual and family plans. Discussion of the multidimensional nature of language and culturally different language patterns. Requires observation of clinical intervention and a laboratory experience. Prerequisites: CDS 416 and 510.

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

625. Clinical Methods in Speech and Language I. (4). 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 includes clinical procedures for therapy, writing behavioral objectives and progress reports, and conducting parent conferences. Prerequisites: 25 clock hours of observation; grade of C or better in CDS 304, 306, 416, 510 (can be concurrent), and 514; and a minimum GPA of 2.750 cumulative and 3.000 in the major.

635. Clinical Methods in Speech and Language II. (1). Supervised practicum of clinical assignments in the WSU Speech-Language-Hearing Clinic. Prerequisites: prior or concurrent enrollment in CDS 625, instructor's consent one semester prior to enrollment, medical clearance, and insurance.


718. 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 interview and counseling, and multicultural concerns. Provides opportunities for observation, one focus being demonstration of intervention methods. Prerequisites: senior standing and CDS 300, 510.

780. Communication Disorders in Educational Settings: (3). Organization, administration, and professional relationships in public 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.

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 501 or equivalent or departmental consent.

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.

813. Communication Disorders in Medical Settings. (3). Provides the principles underlying a transdisciplinary teaming approach, emphasizing 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.


816. Language Disorders 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 and 516 or departmental consent.


821. Graduate Methods in Educational Settings. (2). 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.

822. Beginning Graduate Methods. (1). Lecture and class discussions covering various types of communicative disorders and management techniques/methods. Relates theories and methods to students' clinic and practicum assignments. Designed for students with 20 or more practicum clock hours. Prerequisites: CDS 625, 635, and concurrent enrollment in CDS 835.

823. Graduate Methods in Medical Settings. (1). Class discussions cover various topics pertaining to hospital and adult care practice experiences. Relates theory and methods to student's practical assignments. Prerequisites: CDS 813 and concurrent enrollment in CDS 833.

825. Graduate Methods in Communicative Disorders. (1). Lecture and class discussions cover various types of communication disorders and management techniques/methods. Relates theories and methods to students' clinic and practicum assignments. Prerequisite: concurrent enrollment in CDS 835.

826. Graduate Methods in Language. (1). Lecture and class discussions cover various types of language disorders. Relates theories and methods to students' clinic and practicum assignments. Prerequisites: CDS 516, 635, 822.
concurrent enrollment in 836, medical clearance, and insurance.


829. Graduate Methods in Accent Modification. (1). Lecture and discussion of techniques for foreign accent and dialect modification. Prerequisites: concurrent enrollment in CDS 836, medical clearance, and insurance.

830. Advanced Methods in Speech and Language Evaluation. (1-3). Provides the student with information regarding speech and language evaluation processes and procedures. Prerequisites: concurrent enrollment in CDS 820.

831. Evaluation Processes (4-6). 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 780 and 816, concurrent enrollment in CDS 821, instructor's consent one semester prior to enrollment, medical clearance, and insurance.

832. Advanced Methods in Hospital/Adult Care. (4-6). Full-time or part-time participation in a medical setting under the guidelines of a certified clinician and a University supervisor. Prerequisites: graduate standing, CDS 815, concurrent enrollment in CDS 823, instructor's consent one year prior to enrollment, medical clearance, and insurance.

833. 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.

834. Graduate Practicum in Communicative Disorders. (1-3). Repeatable. Supervised application of diagnostic and/or clinical management techniques with individuals presenting communicative disorders. Prerequisites: CDS 635, concurrent enrollment in CDS 822 or 825, medical clearance, and insurance.

835. Graduate Practicum in Language Group. (2). Exposes students to a variety of early childhood language disorders. Prerequisites: concurrent enrollment in CDS 826, medical clearance, and insurance.


839. Graduate Practicum in Accent Modification. (1). Practices techniques in foreign accent and dialect modification. Student clinicians work directly with students in CDS 570. Attendance in CDS 570 required. Prerequisites: concurrent enrollment in CDS 829, medical clearance, and insurance.

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, species-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 critical review of pertinent research concerning the physiological bases of speech. Emphasizes understanding the instrumental techniques utilized in such studies. Prerequisite: CDS 801.

Audiology

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.

Lower-Division Course

250. Introduction to Audiology. (3). 3R; 1L. Introduces 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 1110Q.

Upper-Division Courses

350. Auditory Disorders. (3). History and scope of the field. Studies basic aspects of normal hearing function and surveys audiology testing procedures, including audiomeric screening. Also introduces the use of hearing aids, auditory training, lip reading, and rehabilitative counseling. Prerequisite: CDS 250.


452. Beginning Practicum in Audiology. (1). Supervised practicum of audiomeric techniques in the University Audiology Clinic. Requires 24 hours of supervised audiometric practicum per week. Prerequisites: CDS 350, medical clearance, instructor's consent, senior standing, 25 hours of observation, concurrent enrollment in CDS 451.

Courses for Graduate/Undergraduate Credit

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

655. Methods in Auditory Assessment-SLP. (1). Methods in audiology evaluation for speech and language pathology students. Discusses procedures for diagnostic evaluation of a broad range of auditory disorders in infants, children, and adults in weekly class meetings, along with procedures for hearing screening, hearing aid maintenance and fitting, counseling, and others as appropriate. Prerequisites: CDS 250, 350, and concurrent enrollment in CDS 456.

656. Practicum in Auditory Assessment-SLP. (1). Speech and language pathology students engage in practicum experiences in audiological screening and assessment as arranged. Prerequisites: concurrent enrollment in CDS 486, medical clearance, and insurance.

751. Clinical Audiology I. (3). 3R; 1L. Techniques and procedures for administering the basic auditory test battery and the interpretation of audiomeric results. Prerequisite: graduate student status.

752. Clinical Audiology II. (3). 3R; 1L. Diagnostic and rehabilitative procedures in the audiology clinic. Techniques and procedures for the administration and interpretation of special auditory tests including tests for speech and language, auditory discrimination, tone identification, and auditory localization. Prerequisite: CDS 751.


765. Graduate Methods in Aural Rehabilitation. (2). Discusses topics pertaining to the provision of aural rehabilitation services for children and adults. Includes current practices in aural rehabilitation for children, adults, and the elderly; procedures and materials for those services; and current therapy by student clinicians enrolled in practicum. Repeatable. Pre-

780. 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 the normal system as a basis for understanding the pathological system. Prerequisites: CDS 250, 801.

803. Introduction to Psychoacoustics. (2). Discusses procedures for diagnostic evaluation of a broad range of auditory disorders in infants, children, and adults in weekly class meetings, along with procedures for hearing aid evaluation and fitting, counseling, and other tasks as appropriate. Prerequisite: audiologic faculty’s consent.

851. Medical Audiology. (2). Many hearing disorders require evaluation/treatment by both the audiology and medical professions. Reviews the audiological and physiological-medical aspects of the more common conditions found in children and adults. Prerequisites: CDS 250, 802, or instructor’s consent.

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


886. Advanced Practicum in Auditory Assessment-Aud. (1). Practicum experiences encompassing diagnostic evaluations covering a full range of auditory disorders and types of evaluations in infants, children, and adults, including standard audiologic batteries, masking, site-of lesion testing, electrophysiologic measurements, hearing aid fitting and dispensing, patient follow-up, and counseling. Prerequisites: audiology faculty’s consent.

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 35th hour with the Preprofessional Block taking CI 271 and 272 concurrently. Each 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 Courses

201. The Computer as a Learning Tool I. (1). Provides computing skills necessary to succeed in the academic environment. Learn how to use computers and software to organize course work, 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.

271. Introduction to Professional Education. (2). Students examine the career in education, characteristics of good teaching, the nature of teacher education programs, basic historical

and philosophical foundations of education, and employment options. They analyze their own personalities, 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; 2.750 GPA; in the 35th hour; and concurrent enrollment in CI 272.

272. 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 skills 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; 2.750 GPA; in the 35th hour; and concurrent enrollment in CI 271.

290. Directed Study. (2-3).

Upper-Division Courses

303. Clinical Field Experience: English as a Second Language (ESL) I . (1-4). Students work with an ESL specialist to learn hands-on strategies for teaching students whose native language is not English. Includes observing the interaction between language and culture, how to use multi-level teaching strategies, how to adapt materials, how to assess and grade a variety of language proficiency levels, and how to best utilize available people resources (bilingual paraprofessionals, parents, etc.) to maximize successful performance among this population. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

304. Clinical Field Experience: English as a Second Language (ESL) II. (1-4). An extension of CI 303. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

305. Clinical Field Experience: Special Education I. (1-4). Students learn how special education services are delivered in public schools, gain practical experience interacting with public school students with various labels, abilities, and exceptionalities in a variety of settings; and become familiar with related terminology (PIT, IEP, ECSE, ADHD, EMR, Child Study Team, etc.), the steps used to evaluate and place students with special needs; and approaches that work to maximize the success of all students. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

306. Clinical Field Experience: Special Education II. (1-4). An extension of CI 305. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

307. Clinical Field Experience: Technology I. (1-4). Students work with teachers using technology and management tools. Gain hands-on experience with computers (management systems, word processing, internet/ email, graphics); become
familiar with basic terminology; and gain experience in the selection and use of appropriate commercial software to enhance the regular curriculum. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

308. Clinical Field Experience: Technology II. (1-4). An extension of CI 307. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

309. Clinical Field Experience: Developmentally Appropriate Practices I. (1-4). Students work with teachers delivering Developmentally Appropriate Practices in a classroom setting; gain experience in assessing developmental levels, personalizing instruction (developing centers, using learning contracts, structuring multi-level lessons), and designing and implementing appropriate instruction for each level. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

310. Clinical Field Experience: Developmentally Appropriate Practices II. (1-4). An extension of CI 309. Prerequisites: acceptance into the Teacher Education Program and a Professional Development Site Program.

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 301 and 302 and concurrent enrollment in CI 320 and 430 and CESP 334.

316. Children's Literature. (5). Students examine literature suitable for use with children in the preschool and elementary grades. Includes reading and examination of a wide selection of children's literature in all genres. Students develop evaluative techniques for identifying materials and practice in the use of selection aids. Prerequisite: 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. Presents service delivery models and current special education practices. Prerequisites: admission to teacher education; CI 271 and 272; 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 teaching their subjects in a variety of settings. Prerequisite: acceptance into teacher education; CI 311, 316, 320, 430; CESP 334; completion of or concurrent enrollment in CI 328 and CESP 433; 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; CI 311, 320, 430; CESP 334; 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 use a method of instruction. Requires a 15 clock hour (class time) field experience in the schools during normal school hours. Prerequisites: acceptance into teacher education and CI 311.

413. Presudent 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 instruction, 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 271 and 272.

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. Prerequisites: acceptance into teacher education including successful completion of CI 271 and 272 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/Nc only. Prerequisites: acceptance into teacher education; CI 322, 402, 406; concurrent enrollment in CI 447 and 457.

447. Student Teaching in the Elementary School. (8-15). The primary purpose of student teaching field experience is to provide evidence of the prospective 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 instructing a full complement of classes, including a full schedule for at least 10 days. Prerequisites: acceptance into teacher education; CI 322, 402, 406; concurrent enrollment in CI 446 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 students who hold other certificates or who may have taught a number of years. Any deviations from established grade point averages and other regulations must be approved by the College of Education’s 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 departmental consent. See CI 447 for deadlines for filing an application to enroll in student teaching.


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; (S) 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, 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 practice. Students examine the role of the teacher as a professional, the 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.

*Student Teaching—Secondary School. The student teaching semester is required of all students working toward a secondary certificate and is a full-time assignment. Application for approval to enroll in the program must be made in the certification office by February 1 for the fall semester or by September 1 for the spring semester. In addition, students must obtain approval from the representative of the subject area in which they wish to student teach before placement can be considered.

It is expected that students will student teach in their field of major interest. However, individuals who are well prepared in more than one field may apply to student teach in a second field, but they must take the special methods course in the second field before entering the student teaching semester.

The assignment for student teaching begins with the opening of the public school semester, and enrollees must arrange to meet from 8 a.m. to 5 p.m. daily and to be available for selected evening programs throughout the semester.

Prerequisites: acceptance into teacher education methods in the subject area, and concurrent enrollment in CI 457 and student teaching seminar.

465. Student Teaching: Secondary English. (3-15). 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. (3). Prerequisites: acceptance into teacher education, CI 312, 328, CESP 433, 2,500 GPA in the major, and concurrent enrollment in instructional strategies, CI 457, and student teaching seminar.

468. Student Teaching: Secondary Social Studies. (3-15). 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. (3). Prerequisites: acceptance into teacher education, methods in the subject area, CI 312 and 328, CESP 433, 2,500 GPA in the major, and concurrent enrollment in CI 457 and student teaching seminar.

470. Student Teaching: Secondary Science. (3-15). 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.

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

541. Desktop Publishing I. (3). Desktop publishers control the entire publishing process, from creation and typesetting to printing and distribution, with equipment from the desktop. Word processing on the personal computer and laser printing are the two technological achievements that make possible a desktop publishing revolution. Stresses type design, harmonv, legibility, copy fitting, and layout fundamentals.

542. Desktop Publishing II. (3). An intermediate-level course which enhances, enriches, and develops further skills and techniques used in desktop publishing. Students select software packages in which they need additional depth toward master-level. Prerequisite: CI 541.

615. Learning and Reading Strategies. (3). Students are provided with the understanding of the development of learning and reading strategies and explore instructional approaches for guiding secondary students in those strategies and their use in content areas.

616. Literature for Adolescents. (3). Students participate in extensive reading of literature in all genres consistent with studies of adolescents; reading interests, abilities, and responses to literature. Prerequisite: acceptance into teacher education. Currently and previously certified teachers meet prerequisites.

621. Instructional Strategies: Middle Level Education. (3). Students examine the middle grades teacher as an organization that takes its design specifically from the analysis of 10-14 year olds, their characteristics, and their needs. Students examine many curricular and instructional approaches for middle grades education and learn to manage changes.

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 learners, including the handicapped and the gifted. Presents service delivery models and current issues. 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.

705. Introduction to the Reading and Writing Process. (3). Examine all aspects of current theories and pertinent research on reading and writing. Stresses applying this information to the actual teaching of children.

706. Reflective Inquiry Into Learning, Teaching, and Schools. (5). Fosters the reflective thinking ability of teachers about the relationships among learning, teaching, and schools. Explores various frameworks of growth and development, learning theory, social and multicultural education, and philosophical foundations. Students are engaged in initial reading and reflection on individualized research topics. Prerequisites: admission to graduate school, CESP, 701.

707. Introduction to Mildly Handicapped. (3). Examine the roles and responsibilities of special educators and become acquainted with issues and challenges confronting special educators. Also 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 MEd, special education for mildly handicapped program.

708. Current Topics in Curriculum. (1-3). Addresses a broad range of topical issues in curriculum development and implementation. A current issue will be covered under this course number, an umbrella number for a variety of topics/innovations in curriculum. Repeatable.

709. Current Topics in Instruction. (1-3). Addresses a broad range of topical issues in current practices for effective instruction. A current issue will be covered under this course number, an umbrella number for a variety of topics/innovations in instructional practices. Repeatable.
710. Current Topics in Classroom Management. (1-3). Addresses a broad range of topical issues in contemporary classroom management practices. A current issue will be covered under this course number, an umbrella number for a variety of topics/innovations in classroom management. Repeatable.

711. Multicultural Education. (3). Emphasizes students understanding multiple perspectives in a global society and developing multiple modality, culturally aware curriculum experiences. Provides disciplined inquiry and critical experience "to become more responsive to the human condition, cultural integrity and cultural pluralism needed." (NCATE, 1998, 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 agriculture 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.

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, emphasizing case study methodology and expertise in non-participant and participant observation, constant comparative analysis, and reporting research. Prerequisite: admission to Graduate School.

723. Analysis and Management of Behavior. (3). Covers behavior management strategies specific to student and teacher effect academic and social outcomes. Addresses technical, theoretical, and practical aspects of applied behavior analysis. Prerequisites: CI 320 or CI 430 or CI 711 or equivalent.

724. Methods I: Academic and Cognitive Skills, Mild Exceptionalities. (3). Introduces students to specific techniques for improving the cognitive skills and academic performance of students with mild exceptionalities (learning disabilities; emotional disturbances/behavior disorders, or mental retardation). Includes competencies for (a) teaching readiness, cognitive, and academic skills as well as content to students with exceptional learning needs; (b) basic instructional decisions on data; (c) determining where to begin instruction for students with special needs; (d) instructional management and monitoring strategies; and (e) strategies for working with students with exceptional learning needs in general and special education settings. Prerequisites: CI 320 or CI 430 or CI 711, admission to the Teacher Education Program or to the graduate program in special education as a non-degree-seeking student, or instructor's consent.

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.

731. The Reflective and Inquiring Educator. (6). This integrated course builds a foundation for reflective thinking about educational issues and learning research principles that can be used to collect and analyze the success or failure of potential solutions. Prerequisite: admission to MED in Curriculum and Instruction.

734. Literature-Based Reading Programs. (3). Students examine specific methods for developing a literature program with children (preschool-elementary years) emphasizing extending literature and media through the reading environment, language arts, the arts, and creative expression. Prerequisites: 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. Issues related to the field of gifted education such as theories of intelligence, identification, delivery modes, characteristics and learning needs, special populations, curriculum differentiation, and underachievement are explored. Prerequisite: graduate standing.

740. Introduction to Early Childhood Special Education. (3). Students are provided a basic introduction to the emerging field of early intervention for children with disabilities and their families. Prerequisites: CESP 728 and CI 761.

741. Early Childhood Special Education Methods: Preschool. (3). Provides specific techniques needed to teach children with special exceptionality in preschool settings. Includes competencies within early childhood special education for (a) legal foundations (IDEA, Part B), (b) characteristics of learners, (c) assessment, diagnosis, and evaluation, (d) report and Individualized Education Plan (IEP) development, (e) instructional content and management strategies, (f) instructional content and practice, (g) planning and managing the teaching and learning environment, (h) managing student behavior and social interaction skills, (i) collaborating and forming partnerships with family members and other professionals, (j) professional and ethical practices, and (k) strategies for working with students with exceptional learning needs in general and special education preschool settings. Prerequisites: CI 320 or CI 740, admission to the Teacher Education Program or to the Special Ed graduate program as a non-degree student, or instructor's consent.

747L Practicum: ESL/Bilingual Education (K-12 or adult). (3). Provides full-time participation in an ESL program under the supervision of an ESL teacher and a University professor. Focuses on the application of teaching methods for ESL/bilingual learners, the appropriate use of formal and informal assessment procedures, the development of cross-cultural teaching strategies, and the integration of language with content-area instruction. Prerequisites: CI 430 or CI 711, CI 755U, CI 676.

750. Workshops in Education. (1-4).

751. 752, 753, 754, or 755. 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.

770M. Introduction to Macintosh Computing. (2). 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.

770P. Introduction to PC Computing. (2). Provides basic PC computing skills appropriate for classroom use. Includes basic commands, operating systems, managing documents and files, managing floppy and hard disks, basic word processing, and database skills. Teachers who need to know how to use and manage a PC computer should complete this course before enrolling in higher level courses and workshops.

771. Technology in the Classroom. (2). Introduces classroom teachers to new technologies and their use in the classroom. Uses field trips and speakers to expose teachers to leaders in specific technology. Includes telecommunications, multimedia applications, integrated media, and new hardware and operating systems. Prerequisite: CI 770M or CI 770P or instructor's consent.

772M. Macintosh in the Classroom. (3). A comprehensive introduction to a wide range of instructional applications of the Macintosh computer and related technology. Covers teacher management tools such as gradebooks, database management, and test construction software; development of instructional materials in print, on screen, and with hypermedia; appropriate application of CD-ROM and laserdisc technology; and types and evaluation of educational software. Prerequisite: CI 770M or department consent.
772P. PCs in the Classroom. (3). A comprehensive introduction to a wide range of instructional applications of the PC computer and related technology. Covers teacher management tools such as gradebooks, database management, and test construction software; development of instructional materials in print, on screen, and in classrooms; Explores software applications designed to incorporate CD-ROM and laserdisc technology; and types and evaluation of educational software. Prerequisite: CI 770P or department consent.

780C. 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.

780L. 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.

780M. Computers in the Math Classroom. (1). Focuses on the integration of software programs designed for middle and high school mathematics classrooms. Explores software and instructional activities which support math at the middle and high school levels using Apple IIe and Macintosh systems. Prerequisite: CI 770 or instructor's consent.

780S. 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.

781L. Co-Op Education. (1-4). 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.

782. Internet for Educators. (2). Learn how to access and use Internet as an instructional tool. Includes modems, e-mail, World Wide Web, file transfer protocol, newsgroups, and listservs. Covers shareware software and commercial software for both PC and Mac platforms. Emphasizes the instructional impact of the resources and potential application in the classroom. Prerequisite: CI 770M or 770P.

783. Special Projects in Internet. (1). Explore and expand your knowledge of Internet. Complete a special project designed to utilize knowledge and experiences developed in CI 772. Students and instructor establish goals and activities appropriate for grade-level study and applicable in an educational setting. Prerequisite: CI 770M or 770P and CI 782 or instructor's consent.

786. Structured BASIC. (2). Designed to prepare middle school and high school teachers to teach beginning programming courses. Techniques include top-down programming, modularization, subroutine, debugging, documentation preparation, and different data types including string, integers, real numbers, and file manipulations. Prerequisite: CI 770M or 770P.

790. Special Problems in Education. (1-4). Directed reading, activity, or research under supervision of a graduate instructor. Prerequisite: Departmental consent.

791. Practicum: Methods of Computer-Realted Instruction (2). Investigate teaching and learning strategies related to the use of computers in the classroom. Includes the design and management of instructional activities related to software integration, programming, and the development and assessment of computer-related student competencies. Students will be supervised in the field while they apply methods and principles of computer-related instruction. Prerequisite: CI 772M or 772P or department consent.

793. Multimedia in the Classroom. (2). Prepares educators to plan and create multimedia presentations. Includes digitizing audio and video, storyboards, scripting, appropriate hardware, and authoring software.

Courses for Graduate Students Only

802. Seminar on Current Issues in Special Education. (3). Analyze and critique research, integrate understandings, evaluate current issues in light of historical events, and draw conclusions relating theory to practice. Students make oral and written presentations. Prerequisite: within 6 hours of graduation.

804. Classroom Research in Curriculum and Instruction. (6). This integrated class guides students in using classroom research principles to collect, analyze, interpret, and report data to develop solutions for curriculum, instruction, and student issues. Prerequisite: successful completion of CI 721.

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 710.

809. Foundations and Characteristics of Mild Exceptionalities. (3). Introduces students to the principles, concepts, and historical foundations underlying the provision of services for students with mild exceptionalities. Explains characteristics of students identified as having behavior disorders, learning disabilities, or mental retardation. Discusses legal and ethical principles related to various delivery approaches, and examines roles of the students with exceptional learning needs, their parents, and educators as well as related services and community personnel. Discusses current developments in the field of special education. Prerequisites: CI 320 or 702, CI 430 or 711, CI 723 and 724, and full admission to the MEd program in special education; or instructor's consent.

810. Methods II: Social Skills for Mild Exceptionalities. (3). Provides the knowledge and skills necessary to teach social skills and effective education to children and youth with exceptionalities. Prerequisites: full admission to the graduate program, CI 723, 724, 809, and 887. Permission from the instructor for majors in other master's degree programs.

811. Family and Professional Collaboration. (3). Assists the special educator in developing the skills to collaborate and consult with parents, siblings, regular educators, support personnel, and community agencies to facilitate the needs of children with exceptionalities. Prerequisites: full admission to the graduate program, CI 723, 724, 809, and 887. Permission from the instructor for majors in other master's degree programs.

812. Transition Across the Life Span. (3). Examines aspects of transition programming for individuals with exceptionalities across their life span. Addresses transitions from (a) early childhood special education settings to the school environment, (b) elementary to middle school, (c) middle school to high school, (d) one special education setting to another (e.g., self-contained classroom to resource room or general education classroom), and (e) high school to post-secondary settings and independent functioning. Discusses roles of individuals with exceptional learning needs, parents, educators, and community personnel. Prerequisites: CI 809, full admission to the MEd program in special education, or instructor's consent.

821. Classroom Reading Practicum. (3). Students participate in a practicum experience, delivering developmental and corrective reading instruction in a classroom setting. Prerequisite: CI 705.

835. Instructional Models and Practices. (3). For teachers (1) to explore the theories behind, the development of, and the selection of viable instructional practices; (2) to apply instructional models to the analysis and evaluation of various learning environments; and (3) to develop a commitment as a reflective practitioner to more effective instruction through an expanded and integrated repertoire of teaching strategies. Prerequisites: admission to MEd in Curriculum and Instruction program, CESP 701.

837. Collaborating and Refining Problem-Solving Skills. (6). This integrated class guides students in implementing school and classroom improvement practices that have documented success. Emphasizes collaboration skills in the identification, selection, and development of approved school and professional development projects.

842. Early Childhood Special Education Methods: Infants/Toddlers and Families. (3). Provides specific techniques needed to provide services, supports, and accommodations for infants/toddlers and their families who face challenges of developmental disabilities. Includes competencies within early childhood special education for (a) legal foundations (IDEA Part C), (b) collaborating and forming partnerships with family members and other professionals, (c) typical and atypical developmental patterns, (d) child assessment, diagnosis, and evaluation, (e) family assessment and
evaluation, (i) family service coordination, (g) development of individualized Family Service Plans (FSP), (h) family-centered intervention strategies, (i) instructional content and practice, (j) planning intervention strategies in natural environments, (k) transitions for infants/children and families, and (l) professional and ethical practices. Prerequisites: CI or 702, CI 740, full admission to the MEd in special education program, or instructor’s consent.

843. The Professional Educator and Portfolio. (6). This integrated course emphasizes application of professional behavior, classroom research skills, communication/presentation skills, and reflection. A professional portfolio documenting the attainment of the MEd in Curriculum and Instruction program’s goals will be completed and presented to a faculty committee.

845. Curriculum Models and Practices. (3). Examines theories, development practices, evaluation procedures, and current practices in curriculum. Emphasizes multiple conceptual frameworks for thinking about curriculum and reflective inquiry into the implications of these frameworks in today’s classrooms and schools. Prerequisites: admission to MEd in Curriculum and Instruction program, CESP 701.

847A. Practicum/Internship in Early Childhood Special Education. (1-10). Provides students with participation in a class for early childhood handicapped (847A), children/adolescents with learning disabilities (847E), educable mental retardation (847I), or behavior disorders (847K) supervised by a master teacher and University professor, emphasizing applied teaching methods for students with mild exceptionalities, including formal-informal psycho-educational assessment devices, curriculum strategies, behavior management, and prescriptive remediation for academic deficits. Prerequisites: full admission to MEd program in special education, CI 723, 724, 809, and 887.

847E. Practicum/Internship in Learning Disabilities. (1-10). See CI 847A, including prerequisites.

847H. Practicum in Center-Based/Home-Based Early Childhood Handicapped (ECHH). (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, 809; CDS 815 or CI 760; and departmental consent.

847I. Practicum/Internship in Educable Mentally Handicapped. (1-10). See CI 847A, including prerequisites.

847K. Practicum in Internship in Behavior Disorders. (1-10). See CI 847A, including prerequisites.

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 735 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/or middle school grades: problems, concerns, methods, materials, and research related to listening and to oral, written, and visual communication including “school” writing and creative writing. Students select particular concepts and related skills for special attention.

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 methods 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.

855. Models and Practices of Curriculum and Instruction. (6). Examines theories behind, the development of, current practices and trends in, and evaluation and assessment procedures pertaining to curriculum and instruction. Emphasizes multiple conceptual frameworks for thinking about curriculum and instruction, and reflective inquiry into the implications of these frameworks in today’s classrooms. Prerequisite: CI 706.

856. Improvement of Instruction in Mathematics. (3). Students examine current trends in subject matter content and teaching guides to improve understanding of meanings, vocabulary, and mathematical concepts. Includes instructional methods and materials.

861. Seminar in Special Education Research. (3). Development and presentation of research proposal. Prerequisite: admission to MEd in Curriculum and Instruction, CI 706, CESP 701.

862. Professional Portfolio Development. (2). Students develop the professional portfolio proposed and accepted in CI 860. In consultation with their portfolio advisor and two other faculty members, students proceed with their approved agendas. Prerequisite: CI 860.

863. Presentation of Professional Portfolio. (2). Students complete, present, and develop their portfolio committee, and orally defend the professional portfolio proposed in CI 860. Prerequisites: CI 860 and 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 advisors 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 in Teaching the Gifted. (3). Students examine strategies and techniques for planning qualitatively differentiated curricula to meet the unique academic needs of the gifted learner. Students explore a variety of curriculum approaches including acceleration, enrichment, compacting, groupings, 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 school-age individuals with exceptionalities and reading disabilities as well as young children and culturally and linguistically diverse learners), and alternative methods of assessment and intervention techniques based on diagnostic profiles. Prerequisites: CI 320 or 702, 430 or 711, 723 and 724, full admission to the MEd program in special education, or instructor’s consent.

888. Methods: Mildly Handicapped. (3). Students master specific competencies in teaching special students including use of data based instruction; strategies for reading assessment; techniques for improving reading, math, and written language skills; and strategies for working with other teachers to facilitate mainstreaming of special students. Prerequisites: CI 707 and acceptance into the MEd special education for mildly handicapped program.

894. Advanced Topics in Early Childhood Special Education. (1-4). Students participate in topical seminars in early intervention offered periodically to facilitate opportunities for students in developing interdisciplinary or topical research in this rapidly developing field. Prerequisites: CI 740, 741, 842, 847H, 887, and 892 or instructor’s consent. Repeatable for credit.

Kinesiology and Sport Studies
The mission of the Department of Kinesiology and Sport Studies is to prepare students for careers in exercise science, physical education, and sport administration, as well as to provide the University community with physical activity experiences. Students are provided with quality instruction and practical experiences by faculty who engage in intellectual inquiry and service to the community and profession. The following degrees are offered: a BA degree in sport administration, a BA degree in physical education; K-12, and a BA degree in physical education: exercise science. Each degree area provides students with a quality education leading to numerous career opportunities.
Physical Education: K-12
Wichita State's elementary and secondary physical education teacher preparation degree program offers a quality education for students desiring a career teaching physical education. The curriculum provides students with a scientific and practical background upon which to base teaching content and methods. The K-12 program addresses the importance of a developmentally appropriate curriculum based on the national physical education standards. Students are provided a minimum of 45 contact hours with K-12 students during pre-student teaching experiences. Graduates qualify for the Kansas teacher certification in physical education K-12.

Physical Education: Exercise Science
Wichita State’s physical education: exercise science degree program offers a quality curriculum with a variety of options including science, pre-physical therapy, sport administration, gerontology, and athletic training. Students in the exercise science degree option complete both practicum and internship requirements. The department also has a comprehensive human performance laboratory that is available for students completing exercise science course work. Graduates of this program work in a variety of settings including corporate fitness programs, schools, hospital wellness programs, for-profit health clubs, and community-based programs.

Sport Administration
Wichita State's sport administration degree provides students with a quality curriculum including courses such as sport marketing, sport law, sport management, and sport facility management. Students pursuing the sport administration degree program complete a two-semester internship requirement (or its equivalent). Graduates of this program work in a variety of sport settings including intercollegiate sports, minor league professional sports, major league professional sports, park and recreation departments, and in the health club/sport industry.

Certifications
State certification in Health Education is available through a program which provides an endorsement to teach K-12 health. This course of study includes the knowledge base and practical experiences necessary so the graduate can provide a comprehensive health education program in the school setting.

Minor in Exercise Science
The exercise science minor consists of 23 credit hours including the following courses: KSS 201E, KSS 328, KSS 331, KSS 440, KSS 470, KSS 530, HS 331Q, and a prerequisite course in Anatomy and Physiology. This program prepares you for careers in the fitness industry and for certification exams.

Minor in Sport Administration
The sport administration minor consists of 18 credit hours including the following courses: KSS 525, 560, 565; Mkt. 300; and two of the following three courses KSS 475, 520, and 544. This program prepares you for careers in the athletic/sport industry.

Service Program
Physical education activity courses carry one hour of credit. They fall into nine areas.

Physical Education Activity Courses.
101. Team Activities. (1).
102. Individual Activities. (1).
103. Combatives. (1).
105. Gymnastics. (1).
106. Fitness Activities. (1).
108. Combined Activities. (1).
110. Varsity Activities. (1).

Activity courses in the service program 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. (3). Introduction to the history, principles, philosophy, and foundations of physical education with concomitant outgrowths for modern society.
112. Introduction to Sport Administration. (3). Introduction to the discipline of sport administration and its vast array of career opportunities (since the sport industry represents the eleventh largest industry in the U.S.).
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. Community First Aid and Community CPR. (2). Community first aid and community cardiopulmonary resuscitation with certification by the American Red Cross.

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Minor in Exercise Science
125. Health/Wellness Concepts. (1). Teaches health and wellness concepts to promote living a positive, healthy life. Covers behavior change theory to maximize the chances that behavior changes stimulated during the class will be come permanent.

150. Workshop. (1-3).

152. Special Studies in Health, Physical Education, and Recreation. (1-3). Group study activities in preselected 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, and archery.

201C. 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). 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). 1 R; 2L. The whys and hows behind activities designed to develop and maintain the muscular and cardiorespiratory systems of the human body. Two days per week are spent in a laboratory situation to assess fitness components and participate in an individually designed fitness program. One day per week involves a lecture to enhance understanding of exercise, weight control, cardiovascular disease, and fitness parameters.

Upper-Division Courses
306. Water Safety Instructor. (2). 1R; 2L. Meets American Red Cross standards for certification in Emergency Water Safety and Water Safety Instructor Training. Student must show proficiency at the American Red Cross Swimmer skill level within three weeks after enrolling. Prerequisite: KSS 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: KSS 270 and 214A, B, C, D, admission to teacher education block, and completion of Preprofessional Block.

311. Methods and Techniques I. (3). Methods, techniques, teaching progression, analysis, and skill development of badminton, tennis, flag football, golf, bowling, and archery. Requires 30 hours of field experiences and observation in selected high schools. Prerequisite: Block I of teacher education program.

312. Methods and Techniques II. (3). Methods, techniques, teaching progression, analysis, and skill development of softball, volleyball, soccer, basketball, fitness activities, and activities for middle school. Requires 30 hours of field experiences and observation in selected middle schools. Prerequisite: Block I of teacher education program.


327. Physical Education in the Intermediate Grades. (3). SR: 2L. Final course in the series 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 experiences with intermediate grade school children. Prerequisite: Block I of teacher education program.

328. Kinesiology and Biomechanics. (3). The understanding of the kinesthetics and mechanics of human motion with respect to performance of sport activities. Prerequisite: KSS 229 or equivalent.

331. Care and Prevention of Athletic Injuries. (3). For prospective coaches, athletic trainers, health and physical educators—to aid in the recognition, evaluation, and care of athletic injuries. Techniques in taping, prevention, and rehabilitation of injuries. Prerequisite: KSS 229 or equivalent.


440. Concepts in the Prescription of Exercise. (3). An introduction of techniques appropriate for screening, health appraisal, and fitness assessment as required for prescribing exercise programs for persons without disease or with controlled disease, and provision for practical experience in a supervised setting outside the class. Prerequisite: KSS 201E and 530 or equivalent.

449. Student Teaching—Elementary Health. (13). Prerequisites: completion of all courses in major field and completion of Block III of teacher education program.

460. Practicum—Sport Administration. (3). Integrates course work with planned and supervised professional experiences for a minimum of 15 hours per week. Prerequisites: KSS 117, 201E, 530; 2.5 GPA; junior standing; and admission to College of Education.

470. Fitness Practicum. (3). Application of theory to practice by assisting in campus fitness classes and the Human Performance Lab a minimum of 15 hours per week. Prerequisites: KSS 117, 201E, 530; a 2.5 GPA; or departmental consent.

471. Student Teaching—Physical Education—Secondary. (4). Prerequisite: completion of all courses in major field and Block III of teacher education program.

472. Student Teaching—Physical Education—Elementary. (4). Application for student teaching 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. Prerequisite: completion of all classes in the major field and Block III of teacher education program.

473. Student Teaching Seminar. (1). 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 KSS 471 and 472.

475. Sport in American Culture. (3). Develops an understanding of sport in the American culture, including how sport interacts with other facets of society (e.g., politics, economics, societal subcultures, ethics, socialization processes).

500. Health Education K-12. (3). Provides 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 to pre-selected local health agencies. Additional projects required for graduate students. Prerequisites: Block I of teacher education program.

502. Applied Health I. (2). Introduction to public health problems and practices. Field excursions are arranged. Prerequisite: 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. Prerequisites: KSS 502 or departmental consent.

515. Rhythmic Activities. (2). Teaches methodology and curricular content of rhythmic activities appropriate for elementary and middle school children. Prerequisites: Block I of teacher education program.

520. Sport Tournament and Event Management. (3). A detailed account of the structural designs, mathematical calculations, scheduling principles, procedures, and thought processes involved in the organizing and conducting of sport tournaments and events.

525. Sport Facility Management. (3). Focuses on various aspects of facility management, such as mission development, funding and budget, site selection/planning/design, facility surfaces, risk management, equipment purchase and maintenance, and personnel management.

526. Sport Public Relations. (3). Focuses on the application of public relations principles in a sport-related setting. Significant attention to media relations with specific topics including
528. Sport Finance. (3). Introduces the sport administration student to financial challenges, financial statements, financial planning, and related issues within sport organizations.

530. Physiology of Exercise. (3). SR, 1L. Provides a working knowledge of human physiology as related to exercise. Prerequisite: KSS 250 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: KSS 111 and 201A or B or E.

540. Seminar in Sport Business. (3). Integrates the knowledge base of sport and business as they apply in the practical setting. Prerequisites: 2.5 GPA, admission to College of Education, KSS 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.

547A. Internship in Sport Administration. (8). Culminating activity for students in sport administration. Students spend the equivalent of full-time employment in the appropriate agency for a total of at least 520 hours. Prerequisites: KSS 457A. Students spend the equivalent of full-time employment in the appropriate agency for a total of at least 520 hours. Prerequisites: KSS 457A, 2.500 GPA overall and in major, senior standing in College of Education, advisor's approval.

547B. Internship in Sport Administration. (8). Second internship experience for students in sport administration; takes place in a different setting than KSS 547A. Students spend the equivalent of full-time employment in the appropriate agency for a total of at least 520 hours. Prerequisites: KSS 457A, 2.500 GPA overall and in major, senior standing in College of Education, advisor's approval.

557. Internship in Fitness/Wellness. (3). Culminating activity for students in the fitness field option specialization. Students spend the equivalent of full-time employment in the appropriate agency for one full semester. Prerequisites: senior standing, departmental consent, KSS 470, 2.500 minimum GPA overall and for major, admission to College of Education.

560. Legal Aspects of Sport and Physical Activity. (3). Focuses on the concepts of tort law, constitutional law and statutory law as they relate to the sport professions. Emphasizes liability-related issues as they impact sport administrators, exercise professionals and teachers/coaches of physical activity.

565. Marketing Sport and Physical Activity Programs. (3). Introduces concepts and tools used to market sport and physical activity. Emphasizes marketing strategies that are applicable to the sport administrator, teacher/coach and exercise professional. Prerequisite: MKT 300.

590. Independent Study. (1-3). Prerequisite: departmental consent.

720. Teaching Strategies. (3). Non-traditional and innovative techniques and strategies for increasing student participation and motivation in the physical education lesson. Prerequisites: senior standing, graduate standing, or instructor's consent.

732. Introduction to ECG's. (3). Develops a foundation in electrocardiography. Includes ECG leads, rate and rhythm, ECG complexes and intervals, conduction disturbances, arrhythmias, identification of myocardial infarction location, and drug effects on an ECG. Prerequisites: KSS 530 and senior standing, full standing in the Graduate School, or instructor's 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. Physical Dimensions of Aging. (3). Covers the complex physiological changes that accompany advancing age and how exercise affects the aging process. Includes an appreciation for how functional consequences affect mental and social dimensions of life. Emphasizes factors associated with the preparation, implementation, and evaluation of research projects involving elderly populations.

781. Cooperative Education Field Study. (1-8). Provides 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/NC only.

790. Applied Exercise Physiology. (3). Focuses on the applied aspect of exercise physiology. Includes the areas of environmental influences on performance, optimizing performance through training, nutrition, and ergogenic aids, and training and performance of the adolescent athlete and of elderly, and the differences in performance and training between genders. Prerequisite: KSS 530 or 830.

Courses for Graduate Students Only

800. Recent Literature in the Profession. (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 commercial and professional sports organizations. Learn about the various components of sports administration by reading appropriate materials and entering into dialogue with practicing administrators.

812. Advanced Techniques in Physical Education. (3). Comprehensive coverage of selected physical activities, emphasizing class procedures. Includes laboratory experiences.

814. Analysis of Teaching. (3). An in-depth examination of teacher effectiveness. Includes analysis of research in physical education, identifying significant teacher and student behaviors involved in effective teaching, examining evaluation models designed for analyzing and measuring teaching effectiveness, and developing intervention programs.

815. Fitness Assessment/Exercise Recommendations. (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: KSS 530 or equivalent and graduate standing.

816. Physical Education in Secondary Schools. (3). For the physical education specialist. New concepts and recent trends in methodology, programming, and supervision at the secondary level.

825. Physical Education in Elementary Schools. (3). New concepts, recent trends, methodology, programming, and supervision. For the elementary teacher and physical education specialist.

830. Advanced Physiology of Exercise. (3). In-depth study into the physiological basis of exercise. Includes energy metabolism, respiratory dynamics, cardiovascular function, and regulation during rest, steady state and exhaustive physical activity. Emphasizes immediate and long term adaptation to exercise and training. Prerequisite: KSS 530.

835. Legal Issues in the Profession. (3). Acquaints the graduate student with legal research and the role that law plays in governing the sport and fitness industries. Actively researches the theories of law and how they affect the nature of sport, fitness activity, the participants, and consumers. Investigates the basic concept of negligence utilizing illustrative cases from sports, physical education, and fitness activities. Also focuses on specific situations regarding injury and subsequent lawsuits.

847. Internship. (6). Internship in selected areas of specialization in exercise science or sports administration. Prerequisite: departmental consent.
887. 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 an appropriate agency for one full semester. Prerequisite: departmental consent.

860. Research Methods in the Profession. (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, computer-based analysis of data, and thesis/report writing. Students design and complete a mini-research project. Prerequisite: KSS 800.

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. Prerequisite: admission to graduate school in good standing, KSS 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: KSS 875 and consent of the student’s committee chair.

890. Problems in Health, Physical Education, and Recreation. (1-4). Directed reading and research under supervision of a graduate instructor.

**Learning Resource Center**

A variety of services is offered to students through the programs of the Learning Resource Center. Courses are offered to help students improve their reading comprehension and speed, critical thinking skills, library skills, study strategies, and standardized test-taking skills.

In addition to formal course work, the center offers free workshops and media programs covering a wide range of topics intended to enhance student learning and success. The center also offers programs for special student populations.

**Lower-Division Courses**

101. Introduction to the University. (3). Helps students make connections with academic programs, faculty, staff, and other students; develop required academic and career competencies; and make sense of the higher education environment.

110. Efficient Study Strategies. (1). Helps students develop study strategies needed for academic success, since to be a successful student, method may be as important as ability.

160. College Reading and Study Skills. (3). Prepares students for academic challenges of college. Improves ability to learn and remember textbook and lecture information, to ask appropriate questions, and to read assigned material in less time. Enhances reading speed, reading comprehension, and study skills. Includes time management, text reading, learning styles, and note-taking and test-taking strategies.

170. Introduction to Library Research. (1). Students learn to locate and retrieve information in both print and electronic formats, including the Internet, and learn to distinguish between scholarly research and non-scholarly publications.

210. Standardized Test Preparation. (1). Helps students prepare for the reading comprehension and verbal reasoning sections of standardized tests such as the GRE, MAT, PPST, LSAT, GMAT, MCAT, DAT, and NTE. Offered S/U only.

260. Critical Reading and Reasoning. (3). Improves student’s reasoning skills especially in the area of evaluating the logic and validity of written arguments. Focuses on critical thinking skills such as problem solving, reasoning and developing arguments, and vocabulary development.

**Music Education**

See School of Music section, College of Fine Arts.

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.
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 and computer, 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). Two new programs leading to the Bachelor of Science in manufacturing engineering and in computer engineering, which are not presently accredited by EAC/ABET, are also offered.

Graduate

A Master of Science (MS) is offered in aerospace, electrical, industrial, and mechanical engineering. A new Master of Engineering Management program is offered in the industrial and manufacturing engineering department. 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 programs.

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) Eng. 101/100, Engl. 102, and Comm. 111,
(b) Math. 242Q, and
(c) Phys. 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 6 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.

Transfer students admitted on probation must complete at least 12 semester hours of credit work at Wichita State before probation may be removed.

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 advisor 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 cumulative WSU grade point average of 2.000 in the next 12 hours attempted, or a cumulative major grade point average of 2.000 in the next nine hours attempted in their major field, and the grade point average for the most recent semester or Summer Session is below 2.000.

Academic Advising and Enrollment

Students in the College of Engineering are invited to seek academic advice from their advisors 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 advisor, reduce their enrollments to a level appropriate to their work load.

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 advisor 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 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 Introductory. One is to be a Further Study course in one of the disciplines in the division in which two 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 32-34 hours of mathematics and natural sciences, engineering students automatically satisfy the requirements in this division.

Refer to the section on the General Education Program in this Catalog for a description of the Introductory courses, Further Study courses, and Issues and Perspectives courses.

College of Engineering Requirements
(1) Mathematics and Natural Sciences: 32-34 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, Statics (3 hrs.); ECE 282, Circuits I (4 hrs.); IEN 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 check sheets.

(4) Technical electives: Additional courses required, but not specified, by the department. Each should be chosen in consultation with a department advisor.

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 of an appropriate combination of mathematics beyond trigonometry and basic sciences, (2) one-half year (17 hours) 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 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 advisor. 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 2.000 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 professional work periods with classroom periods during the junior and senior years. The two most typical plans are illustrated in the following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Semester</td>
<td>F</td>
<td>S</td>
<td>Su</td>
</tr>
<tr>
<td>Plan A</td>
<td>WC</td>
<td>W</td>
<td>WC</td>
</tr>
<tr>
<td>Plan B</td>
<td>C</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>C Indicates in college</td>
<td>W Indicates at work</td>
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</tr>
</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 stu-
dents 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**

101. An Introduction to Engineering. (3). Assists engineering students in exploring engineering careers and opportunities. Provides information on academic and life skills essential to become a successful engineering student. Promotes connections to specific engineering majors and provides activities to assist and reinforce the decision to major in engineering. Recommended for all new engineering students. Offered fall and spring.

**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 of study in technical areas such as aerodynamics, performance, propulsion, flight dynamics and control, and structures. After developing a background of skills in these technical areas, senior students complete a two-course sequence in aerospace design.

The aerospace engineering curriculum also gives students the opportunity to develop a comprehensive foundation in mathematics, physics, general engineering, digital computation, written and oral communications, and humanities and social sciences.

Students have access to an excellent array of laboratory facilities including six wind tunnels, a water tunnel, a computer lab, a structural testing lab, and a composite structures lab. These facilities are among the finest found in academic institutions.

The aircraft industries in Wichita include The Boeing Company, Cessna Aircraft Company, Learjet Corporation, and Raytheon Aircraft. The presence of these companies has a strong positive influence on WSU's aerospace engineering program.

**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 of study for aerospace engineering students is given in the following table.

**Model Program**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Engl. 101 or 100 and 102</td>
<td></td>
</tr>
<tr>
<td>College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 313Q and 315Q, University Physics I</td>
<td></td>
</tr>
<tr>
<td>and Lab</td>
<td>5</td>
</tr>
<tr>
<td>IEN 222, Engineering Digital Computation</td>
<td>3</td>
</tr>
<tr>
<td>AE 227, Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>AE 277, Engineering Digital Computation</td>
<td>2</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Comm. 111, Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Math. 555, Ordinary Differential Equations</td>
<td>4</td>
</tr>
<tr>
<td>with Linear Algebra</td>
<td></td>
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<tr>
<td>Phys. 314Q, University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>AE 223, Statics</td>
<td>3</td>
</tr>
<tr>
<td>AE 324, Fundamentals of Atmospheric Flight</td>
<td>3</td>
</tr>
<tr>
<td>AE 333, Mechanics of Materials</td>
<td>3</td>
</tr>
<tr>
<td>AE 373, Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>ME 250, Materials Engineering</td>
<td>3</td>
</tr>
<tr>
<td>ME 398, Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts or social</td>
<td>3</td>
</tr>
<tr>
<td>and behavioral sciences electives**</td>
<td>3</td>
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</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr. 310, Seminar in Engineering</td>
<td>0</td>
</tr>
<tr>
<td>ME 521, Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>AE 415, Introduction to Space Dynamics</td>
<td></td>
</tr>
<tr>
<td>AE 424, Aerodynamic Theory</td>
<td>4</td>
</tr>
<tr>
<td>AE 502, Aerospace Propulsion I</td>
<td>3</td>
</tr>
<tr>
<td>AE 514, Flight Mechanics and Controls</td>
<td>3</td>
</tr>
<tr>
<td>AE 525 and 625, Flight Structures I and II</td>
<td>6</td>
</tr>
<tr>
<td>IEN 255, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts or social</td>
<td></td>
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<tr>
<td>and behavioral sciences electives**</td>
<td>9</td>
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</table>

**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>AE 512, Experimental Methods in Aerodynamics</td>
<td>2</td>
</tr>
<tr>
<td>AE 607, Flight Control Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECE 282, Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>AE 528 and 628, Airspace Design I and II</td>
<td>8</td>
</tr>
<tr>
<td>Natural sciences elective</td>
<td>3</td>
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<tr>
<td>Humanities and fine arts or social</td>
<td>6</td>
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<tr>
<td>and behavioral sciences electives**</td>
<td>9</td>
</tr>
<tr>
<td>Technical electives</td>
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</tr>
</tbody>
</table>

*To be chosen from a list of approved courses available from the college student records office.

**Lower-Division Courses**

115. Introduction to Astronautics. (1). An introduction and overview of astronautics. Historical, technical, and practical aspects of rocketry, space dynamics, spacecraft design, and the space environment. Intended for freshmen and sophomore AE students 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 atmospheric flight vehicles. Intended for freshman and sophomore AE students who have not taken AE 324, however, it may be taken by students at any level in other engineering departments or colleges.

223. 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 bodies. Also includes the study of centroids, centers of gravity, and moments of inertia. Corequisites: Math. 243 and Phys. 313Q.


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 need 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 minimum of 20 hours per week at their co-op assignment. Prerequisites: successful completion of 20 hours toward an engineering degree and approval by appropriate faculty sponsor. May be repeated. Graded Cr/NC.

Upper-Division Courses


373. Dynamics. (3). A study of the kinematics and kinetics of particles and rigid bodies. Includes force-mass-acceleration, work-energy, and impulse-momentum methods. Prerequisites: AE 223 and Math 344.

415. Introduction to Space Dynamics. (3). Fundamentals of orbital mechanics and rigid body dynamics; two-body problems; orbital maneuvers, orbital determination and interplanetary trajectories; rigid body kinematics and kinetics. Prerequisites: AE 227 and 373; corequisite: Math 355.


481A. Co-op Education. (1). See AE 281A. Graded Cr/NC 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 Cr/NC 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.


528. Aerospace Design I. (4). 2R; 2L. Methodology of flight vehicle design, mission objectives, regulations, and standards, use of hand and computer methods for configuration development and component sizing; ethics and liability in design. Prerequisite: AE 514.


625. Flight Structures II. (3). Strength analysis and design of flight vehicle components. Introduction to energy methods and variational principles. Application of finite element method to the analysis of flight vehicle structures. Special projects in structural analysis and design. Prerequisite: AE 525.

628. Aerospace Design II. (4). 2R; 2L. Preliminary design of flight vehicles, design iteration, sensitivity analysis, optimization, economic considerations, and introduction to project management. Prerequisite: AE 525.

635. 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 tools 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.

690. Independent Study (1-3). Arranged individual study in specialized areas of aerospace engineering under the supervision of a faculty member. Repeatable for credit. Prerequisite: consent of supervising faculty member.

702. Aerodynamic 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; helicopter dynamics, control, and performance. Prerequisite: AE 424.


711. Intermediate Aerodynamics. (3). A study of potential flow equations of motion, singularity solutions, principle of superposition, conformal mapping, thin airfoil theory, finite wing theory, effects of fluid inertia, three-dimensional singularities, swept wing theory, delta wing theory, introduction to panel methods, and an introduction to automobile aerodynamics. Prerequisite: AE 424 or ME 521.

712. Advanced Aerodynamics Laboratory. (3). 1R; 3L. Advanced topics in wind tunnel testing including analysis and sensitivity, modeling techniques, flexure design and calibration, control surface loads and moments, laser velocimetry, hot film anemometry, dynamic signal processing, flow visualization using smoke tunnels and water tunnel. Prerequisite: AE 512 or instructor's consent.

713. Introduction to Aeroelasticity (3). Studies phenomena involving interactions among aerodynamic, inertial and elastic forces. Explores influence of these interactions on aircraft design. Includes such specific cases as divergence, control effectiveness, control reversal, flutter, buffet, dynamic response to rapidly applied periodic forces, aerelastic effects on load distribution and static and dynamic stability. Prerequisites: AE 333, 424 or equivalent.

Intermediate Space Dynamics. (3). Advanced topics in orbital mechanics—vector mechanics perspective of the two-body problem, interplanetary missions including gravity assist maneuver, rocket performance, ballistic trajectories, atmospheric entry, and space environment. Prerequisite: AE 373.

Compressible Fluid Flow. (3). Analysis of compressible fluid flow for one- and two-dimensional cases, moving shock waves, onedimensional flow with friction and heat addition, linearized potential equation, method of characteristics, conical shocks and subsonic similarity laws. Prerequisites: AE 420, AE 424, ME 521 or equivalent.

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. Prerequisite: AE 424 or ME 521.


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. Use Airy stress functions to obtain solutions. Introduces energy principles and variational methods. Prerequisite: instructor's consent.

Advanced Mechanics of Materials. (3). An extension of AE 333. Typical topics include transformation of stress and strain in three dimensions, noncircular toroidal members, curved beams, beams with unsymmetric cross sections, energy methods and the finite element method of analysis, stress concentration, theories of failure and fracture mechanics. Prerequisite: AE 333.

Mechanics of Damage Tolerance. (3). An introduction to the mechanics of damage tolerance with emphasis on stress analysis-oriented fracture mechanics. Topics include stress intensity, fracture toughness, residual strength, fatigue crack growth rate, fatigue crack propagation, and damage tolerance concepts. Prerequisites: AE 525 or instructor's consent.

Aerospace Engineering Workshop. (1-4). Various topics in aerospace engineering. Prerequisite: instructor's consent.

Selected Topics. (1-3). Prerequisite: instructor's consent.


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 of multiple freedom systems. Introduces continuous systems. Prerequisites: Math. 555, AE 373 and 333.

Courses for Graduate Students Only

Structural Dynamics. (3). A study of the dynamic response of multiple degree of freedom systems and continuous systems subjected to external dynamic forcing functions. Classical, numerical and energy solutions. Prerequisite: AE 777.


Panel Methods in Aerodynamics. (3). An introduction to panel method theory and application for inviscid incompressible attached flows. Utilization of some two and three dimensional computer codes. Prerequisites: AE 711 and Math. 757 or equivalent.

Aerodynamics of Viscous Fluids. (3). Viscous fluids flow theory and boundary layers. Prerequisite: AE 424 or ME 521.

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.

Spacecraft Attitude Dynamics. (3). An in-depth study of advanced six degrees-of-freedom kinematics, spinning motion, effects of gravitational forces, simple spacecraft dynamics, and flexible spacecraft. Prerequisite: AE 714 or 773 or equivalent.

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 Area Rule; nozzle throat design; detached shock wave computations; computational methods. Prerequisites: AE 424 or equivalent, and AE 711 or 716.


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.

Continuum Mechanics. (3). Introductory treatment of the fundamental, unifying concepts of the mechanics of continua with applications to classical solid and fluid mechanics. Prerequisite: graduate standing.

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.

Theory of Elastic Stability. (3). Buckling of columns, frames, plates and shells. Prerequisite: AE 731.

Advanced Mechanics of Laminated Composites. (3). An extension of AE 653. Includes anisotropic elasticity, classical laminate theory, failure theories, lateral deflections, elastic stability, large deformation theory, and energy methods. Prerequisites: AE 653 and 731.

Selected Topics. (1-3). Prerequisite: instructor's consent.

MS Thesis. (1-6). Grading S/U only.

Directed Project. (1-3). A project conducted under the supervision of an academic advisor for the directed project option. Requires a written report and an oral presentation on the project. Graded S/U only. Prerequisite: consent of academic advisor.

Independent Study. (1-3). Arranged individual independent study in specialized areas of aerospace engineering under the supervision of a faculty member. Repeatable for credit. Prerequisite: consent of supervising faculty member.

Airfoil Design. (3). Historical development of airfoils, underlying theories and experiments; modern airfoil design philosophies and techniques; theories used in modern airfoil computation methods; application of computer programs for practical airfoil design problems including high lift and control devices. Prerequisites: AE 711, Math. 757.

Aerodynamics of Aeroelasticity. (3). A study of thin airfoils and finite wings in steady flow and thin airfoils oscillating in incompressible flow. Includes extension to compressible and three-dimensional airfoils and modern methods for low aspect ratio lifting surfaces. Prerequisites: AE 711 and 777 or instructor's consent.

Advanced Computational Fluid Dynamics. (3). A study of structured grid generation schemes, transformation of the governing equations of fluid motion, numerical algorithms for the solution of Euler equations, parallelized Navier-Stokes equations, and Navier-Stokes equations. Explore the fundamentals of unstructured grids and finite volume schemes. Prerequisite: AE 719 or ME 858.

Theory of Plasticity. (3). Includes criteria of yielding, plastic stress-strain relationships,
and stress and deformation in thick-walled shells, rotating discs and cylinders, bending and torsion of prismatic bars for ideally plastic and strain-hardening materials. Includes two-dimensional and axially symmetric problems of finite deformation and variational and extremum principles. Prerequisite: AE 731.

960. Advanced Selected Topics. (1-3). Prerequisite: instructor's consent.


990. Advanced Independent Studies. (1-3). Prerequisite: instructor's consent.

Electrical and Computer Engineering

Students in the electrical and computer engineering (ECE) department have two degree programs from which to choose, electrical engineering or computer engineering. Both programs require a total of 128 credit hours minus hours from advanced placement credit. The programs have a minimum of 93 credit hours in common. The common hours are made up of communications skills (9 hours), math and science courses (29 hours), general education courses (18 hours), and the courses covering the fundamentals common to each of the degree programs at WSU (13 hours). The remaining common courses are computer software and digital design courses and courses stressing the laws governing the individual behavior of electrical systems as well as their behavior when included as parts of more complex electrical systems (24 hours). The programs are structured to assure that electrical engineering students are familiar with computers, computer hardware, and computer engineers have a strong background in electrical engineering principles.

Electrical and computer engineering students should have a strong interest in mathematics and science. As part of the curriculum, senior-level students are required to take a two-semester senior project sequence. This two semester project gives the students the opportunity to apply skills acquired during their course work to “real world” problems.

The electrical engineering degree has a sufficient number of technical electives to allow the student to develop skills in specialized areas such as communications and signal processing, control systems, electric power systems, electronics, and digital systems.

The computer engineering degree is a more specialized degree with more required courses and fewer electives. It requires, in addition to the senior project sequence, a one semester lab where students are introduced to state-of-the-art lab equipment and design tools.

Specific requirements and a suggested academic year breakdown for the electrical and computer engineering programs are given below.

Model Program—Electrical Engineering

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>ECE 194, Introduction to Design</td>
<td>4</td>
</tr>
<tr>
<td>ECE 282, Circuits</td>
<td>4</td>
</tr>
<tr>
<td>ECE 229, Engineering Computing in C</td>
<td>3</td>
</tr>
<tr>
<td>General education courses**</td>
<td>3</td>
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Model Program—Computer Engineering

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>ECE 194, Introduction to Design</td>
<td>4</td>
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<tr>
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<td>4</td>
</tr>
<tr>
<td>ECE 229, Engineering Computing in C</td>
<td>3</td>
</tr>
<tr>
<td>General education courses*</td>
<td>3</td>
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Freshman

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<tbody>
<tr>
<td>ECE 194, Introduction to Design</td>
<td>4</td>
</tr>
<tr>
<td>ECE 282, Circuits</td>
<td>4</td>
</tr>
<tr>
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<td>3</td>
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<tr>
<td>General education courses*</td>
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Sophomore

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<th>Course</th>
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<tbody>
<tr>
<td>Math. 555, Ordinary Differential Equations with Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Phys. 313Q and 314Q, University Physics I and II</td>
<td>8</td>
</tr>
<tr>
<td>ECE 284, Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ECE 383, Signals and Systems</td>
<td>3</td>
</tr>
<tr>
<td>ME 398, Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>AE 223, Statics</td>
<td>3</td>
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<tr>
<td>IEN 254, Engineering Probability and Statistics</td>
<td>3</td>
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</table>

Junior

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<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>IEN 255, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>ECE 585 and 595, Electrical Design Project</td>
<td>4</td>
</tr>
<tr>
<td>ECE 644, Digital Design Lab</td>
<td>2</td>
</tr>
<tr>
<td>CS 540, Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECE 744, Introduction to VHDL</td>
<td>3</td>
</tr>
<tr>
<td>General education courses*</td>
<td>6</td>
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<tr>
<td>Technical electives**</td>
<td>8</td>
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Senior

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<tbody>
<tr>
<td>IEN 255, Engineering Economy</td>
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<td>General education courses*</td>
<td>6</td>
</tr>
<tr>
<td>Technical electives**</td>
<td>8</td>
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</tbody>
</table>

Lower-Division Courses

101. Introduction to Electrical Engineering. (1) This course introduces students to electrical systems and their applications. It covers basic concepts and principles of electrical engineering.

150. Workshop on Electrical and Computer Engineering. (1-3) Workshops on electrical and computer engineering are offered on an

* Refer to graduation requirements at the beginning of this section for details.
** Must be chosen with advisor's approval from the departmental approved list.
irregular basis. Prerequisite: departmental consent.

3L. Introduction to Digital Design. (4). 3R; 3L. An introduction to digital design concepts. Includes number systems, Boolean algebra, Karnaugh maps, combinational circuit design, adders, multiplexers, decoders, sequential circuit design, state diagram, flip-flops, sequence detectors, and test different combinational and sequential circuits. Uses CAD tools for circuit simulation. Prerequisite: Math. 111 or equivalent.

229. 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 or equivalent.

235. 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: ECE 229.


284. Circuits II. (3) Includes circuits with mutually coupled elements, transfer functions emphasizing frequency response, two-port networks, Laplace transforms and application to transient circuit analysis and the application of computer aided analysis software toward circuit analysis and design. Prerequisite: ECE 282 and Math. 243; corequisite: ECE 229.

291. Digital Design Techniques. (3). Digital design techniques include registers and register transfer language, RTL state design, memory interfacing and microprogramming. Programmable logic devices, different types of PLDs, combinational and sequential circuit design using PLDs. ABEL programming, PLD based design using ABEL, CMOS family, TTL to CMOS and CMOS to TTL interfacing. Uses CAD tools for circuit simulation. Prerequisite: ECE 194.

Upper-Division Courses


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. Prerequisite: Math. 555. Corequisite: ECE 284.

394. Introduction to Computer Architecture. (3). Introduces memory systems, arithmetic circuits, and computer architecture. A small computer system will be designed in class. Topics include instruction set selection, bus systems, hard-wired, and microprogrammed design. Prerequisite: ECE 294.

477. Selected Topics in Electrical Engineering. (1-2). New or special courses presented on sufficient demand. Repeatable for credit. Prerequisite: departmental consent.

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. Offered Cr/NCr only. Prerequisites: junior standing and approval by appropriate faculty sponsor.

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 site. Offered Cr/NCr only. Prerequisites: junior standing and approval by appropriate faculty sponsor.


492. Electronic Circuits II. (3). An investigation of the theory and application of discrete and integrated circuits. Includes op-amp construction, frequency response, feedback and stability, power amplifiers, and nonlinear integrated circuits. Prerequisite: ECE 492.

Courses for Graduate/Undergraduate Credit

582. Distributed Parameter Circuits. (3). 2R; 3L. A study of 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: ECE 583.

585. Electrical Design Project I. (2). 3L. A design project under faculty supervision chosen according to the student's interest. Prerequisite: departmental consent. May not be counted toward a graduate electrical major.


588. Advanced Electric Motors. (3). Advanced electric motor applications and theory. Includes single-phase motors, adjustable speed drive applications, and stepper motors. Prerequisites: ECE 488 and 492.

594. 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: ECE 258 and 294, or 394.

595. Electrical Design Project II. (2). 3L. May not be counted toward a graduate electrical major. A continuation of ECE 585. Prerequisite: ECE 585. Will not count toward a graduate electrical engineering degree.

598. Electrical Power Systems Analysis. (3). Analysis of electric utility power systems. Topical areas include analysis and modeling of power transmission lines and transformers, power flow analysis and software, and an introduction to symmetrical components. Prerequisite: ECE 282.

636. Telecommunications. (3). Topics in circuit and packet switching, layered communication architectures, state dependent queues, traffic engineering, call processing, software organization, routing and common channel signaling. Prerequisite: ECE 586 or departmental consent.

639. Microcontrollers. (3). A review of microprocessor architectures and assembly language programming. A detailed study of microcontroller architectures, assembly languages and peripheral devices for applications in embedded and real-time control systems. Prerequisite: ECE 238.

644. Advanced Digital Lab. (3). An open laboratory experience for computer engineering students. The course gives students the opportunity to use state-of-the-art devices and equipment in designing complex digital systems. Will not count towards an electrical engineering degree. Prerequisites: ECE 394 and 594.

648. Network Switching and Routing. (3). An in-depth study of bridging and routing in com-
puter networks. Covers bridging (Transparent, Source-route, Remote Source-route, DLSW), routed protocols (IP, IPX, Appletalk, DecNet, IS-IS), and Routing Protocols (RIP, IGRP, EIGRP, OSPF, and BGP). Prerequisites: ECE 636 or departmental consent.


688. Power Electronics. (4). 3R, 3L. 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 application 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 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: ECE 492.

691. Integrated Electronics. (3). A study of BJT and MOS analog and digital integrated circuits. Includes BJT, BiMOS, and MOS fabrication, application specific semi-custom VLSI arrays, device performance and characteristics and integrated circuit design and applications. Prerequisites: ECE 194 and 493.

698. Principles of Power Distribution. (3). The distribution system is a vital contributor to the overall power system function of providing quality electrical service. Provides an overall view of the engineering fundamentals of distribution system. Discusses distribution system planning and automation, primary and secondary distribution network. Discusses voltage regulation, protection, and reliability. Prerequisite: ECE 598 or departmental consent.

726. 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, FSK, DPSK, QPSK, FSK, MSK and other techniques appropriate for communicating digital information in both base-band and band-pass systems; intersymbol interference; effects of noise on system performance; optimum systems; and general M-ary digital systems in signal-space. Prerequisites: ECE 586 and 754.

726. Data Communication Networks. (3). Presents a quantitative performance evaluation of telecommunication networks and systems. Includes fundamental digital communications system review; packet communications; queuing theory; OSI, s,25, and SNA layered architectures; stop-and-wait protocol, go-back-N protocol, sliding window protocol, and high-level data link control seen; network layer flow and congestion control; routing; polling and random access; local area networks (LAN); integrated services digital networks (ISDN); and broad band networks. Prerequisites: ECE 636 or departmental consent.

738. 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: ECE 238.

744. Introduction to VHDL. (3). An introduction to VHDL hardware description language. Includes different types of modeling techniques using state-of-the-art CAD tools. Covers extensively behavioral modeling, structural modeling, and data flow modeling. Design assignments include design and simulation of both combinational and sequential circuits using VHDL.

748. Wide Area Networks. (3). An in-depth study of wide area networks, including ATM, X.25, Frame Relay, and SMDS. Prerequisite: ECE 648.

754. 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 random processes. Includes applications to system analysis and identification, analog and digital signal processing, data compression, parameter estimation, and related disciplines. Prerequisites: ECE 383 and either Stat. 471 or EEN 254.

764. Routing and Switching I. (4). 3R, 3L. An introductory course which studies different hardware technologies, like ethernet and token ring. Discusses VLSI. Introduces different routing protocols. Includes hands-on experience in the ECE department's routing and switching lab. Prerequisite: ECE 294, 229, 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.

781. Analog Filters. (3). A detailed study of analog filter design methods. Includes both passive and active filters. Discusses analog filter approximations; covers sensitivity and noise analyses. Prerequisite: ECE 383 and 492.


790. Independent Study in Electrical Engineering. (1-3). Arranged individual, independent study in specialized content areas in electrical engineering under the supervision of a faculty member. Repeatable for credit. Prerequisite: departmental consent.

792. State Variables. (3). Review of mathematics fundamental to state-space concepts. Formulation of state-variable models for linear and nonlinear continuous and discrete systems and concepts of controllability and observability. Studies adjacent systems in addition to Lur'e and Lagrange stability and computational approximation techniques. Prerequisite: ECE 383.

797. Computer Application to Power System Analysis. (3). Describes the use of power system component models and efficient computational techniques in the development of a new generation of computer programs representing the steady and dynamic states of electric power systems and informs of methods currently employed in the electric utility industry. Emphasizes algorithms suitable for computer solutions of power systems problems such as power flows and system voltages during normal and emergency conditions and transient behavior of the system resulting from fault conditions and switching operations. Prerequisites: ECE 229 and 598.

798. Advanced Electric Power Systems Analysis. (3). Advanced topics in analysis and operation of electric utility power systems. Topics include faulted system analysis, economic dispatch, generator modeling, power system stability, and system protection. Prerequisite: ECE 598.

Courses for Graduate Students Only

826. Digital Communication Systems II. (3). Presents in-depth theoretical and practical digital communication systems and channels. Includes the modeling and analysis of all digital communications receiver 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 system and digital cellular code division multiple access (CDMA) system. Prerequisite: ECE 726.

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 includes Wiener filters, Kalman filters, linear prediction, and algorithms for linear prediction parameter estimation. Prerequisite: ECE 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-square (LMS) filters, recursive least-square (RLS) filters, and recursive least-squares lattice (LSL) filters. All are adaptive and self-designing. Includes concepts of convergence, tracking ability, and robustness. Prerequisite: ECE 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 concentrate on modern methods that are model based, achieve 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: ECE 754.

853. Stochastic Control Systems. (3). Reviews the pertinent aspects of deterministic system models; stochastic processes and linear dynamical system models emphasizing linear systems driven by white Gaussian noises; linear estimation and optimal filtering; design and performance analysis of Kalman filters. Prerequisites: ECE 684 and 754.

876. MS Thesis. (1-6). Graded S/U only. Repeatable for credit toward the MS thesis option up to six hours. Prerequisite: prior consent of the student advisor.

877. Special Topics in Electrical Engineering. (3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent.

878. MS Directed Project. (1-3). A project conducted under the supervision of an academic advisor for the directed project option. Requires a written report and an oral presentation on the project. Graded S/U only. Prerequisite: consent of the student advisor.

882. Speech Digital Signal Processing. (3). An introductory study in speech signal generation and digital speech signal processing. Includes speech generation and perception, acoustic and phonetic models, speech pattern signals and speech production, analysis methods of digital speech signals, digital representations of speech signals, short-time Fourier transforms and the application to spectrograms, pitch and formant estimation, 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. Prerequisite: ECE 754.

883. 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: ECE 782 or departmental consent.

884. 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 and static feedback minimum principle; linear state regulator design; equality-constrained control problems. Prerequisites: ECE 684 and 782.

886. 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 packing and perfect codes. Considers linear (n,k) block codes in some detail including error detection and correction codes, parity check matrices and syndromes. Hamming codes, cyclic codes, error trapping decoding, BCH codes, burst-error-correcting codes, interleaving and product codes. Presents convolutional codes and topics such as the Viterbi algorithm for decoding. Prerequisites: ECE 586 and 754.

893. Optimal Control. (3). A continuation of the study of state-space concepts in the areas of nonlinear systems and optimal and suboptimal control systems with wide classes of performance measures. Prerequisite: ECE 792.

894. Advanced Computer Architecture II. (3). Vector processors, hierarchy design, input and output. Prerequisite: ECE 844.

895. Nonlinear Control Theory. (3). An introduction to the analysis and design of nonlinear control systems emphasizing stability. Includes stability definitions, phase-plane methods, linearization, time and frequency domain stability criteria, limit-cycle criteria and exact methods for relay control systems. Prerequisites: ECE 684 and 792.

897. Operation and Control of Power Systems. (3). Acquaints electric power engineering students with power generation systems, their operation in economic mode and their control. Introduces mathematical optimization methods and applies them to practical operating problems. Introduces methods used in modern control systems for power generation systems. Prerequisite: ECE 586.


901. Advanced Selected Topics in Electrical Engineering. (1-3). Presents new or specialized advanced topics in engineering. Repeatable for credit. Prerequisite: instructor's consent.


982. Speech Recognition. (3). Reviews topics of speech digital signal processing and analysis as necessary for a study of speech recognition such as speech signal production and perception; acoustic-phonetic characterization of speech signals; representing speech signals in time and frequency; and linear prediction of speech signals. Studies topics such as vector quantization, pattern comparison and template matching methods, dynamic time alignment or warping, stochastic methods such as hidden Markov models, linear regression problems, and advanced topics as two methods of segmenting speech signals, language or context-dependent models, and small vs. large vocabulary models. Prerequisite: ECE 882 or departmental consent.

986. Wireless Spread Spectrum Communications. (3). Explains what spread-spectrum communications is and why direct-sequence code-division multiple access (DS-CDMA) spread-spectrum is used for wireless communications. Studies the block diagrams of the IS-95 forward and reverse wireless communication links under multi-path mobile fading environment using analysis techniques and simulation. Analyzes pseudo-noise (PN) signal generation, the band-limited waveform shaping filter, convolutional coding, interleaver, Walsh code orthogonal modulation, rake finger receivers, non-coherent Walsh orthogonal sub-optimal demodulation, other simultaneously supportable subscribers, and third generation CDMA. Prerequisite: ECE 726.

990. Advanced Independent Study. (1-3). Arranged individual, independent study in specialized content areas in engineering under the supervision of a faculty advisor. Repeatable toward the PhD degree. Prerequisites: advanced standing and departmental consent.

993. Large Scale Control Systems. (3). Sensitivity analysis of deterministic and stochastic systems; sources of uncertainty in control systems, e.g., plant parameter variation, time delays, small nonlinearities, noise disturbances and model reduction; quantitative study of the effects of uncertainties on system performance; low-sensitivity design strategies, state and output feedback design; sensitivity function approach, singular perturbation and model reduction education techniques; adaptive systems and near-optimal control. Prerequisite: ECE 893.

Industrial and Manufacturing Engineering

The industrial and manufacturing engineering (IMfgE) department at WSU takes responsibility for instruction and research in design, analysis, and operation of manufacturing and other integrated systems of people, material, equipment, and capital.

The IMfgE department offers two undergraduate degree programs, one in industrial engineering (BSIE) and another in manufacturing engineering (BSMfgE). The BSIE degree program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET). The BSMfgE degree program is new and accreditation for it has not yet been sought. The department also offers three graduate degree programs: Master of Engineering Management (MEM), MS in IE, and PhD in IE. Both the MSIE and PhD programs allow specialization in engineering systems, ergonomics/human factors engineering, and manufacturing systems engineering. The MEM program is geared toward helping engineers/technologists develop planning, decision making, and managerial skills while receiving advanced technical knowledge.

Modern, well-equipped laboratories are available to supplement classroom theory in ergonomics, manufacturing engineering, and computer analysis. The depart-
ment's laboratory facilities include Cessna Manufacturing Processes Lab, Graphics Lab, Metrology Lab, Computer Integrated Manufacturing Lab, Automation and Controls Lab, Ergonomics Lab, and Open Computing Lab. Students in the academic programs offered by the industrial and manufacturing engineering department get ample opportunity to work on real-life problems in local industries as part of course requirements.

The IMfgE department aims to offer curricula and educational experience designed and continuously improved through involvement and contribution of students, faculty, administration, staff, and industry. Objectives of the educational programs offered by the department are driven by WSU's mission as a 'metropolitan university'. Specifically, our program educational objectives are:

1. Our graduates will be prepared for professional employment and graduate study.
2. Our graduates will be prepared for lifelong learning and professional development.
3. We will provide an education that is recognized within the profession.

**Bachelor of Science Degree in Industrial Engineering**

Industrial engineers apply scientific knowledge to solve problems in manufacturing and other industries, businesses, and institutions, focusing on productivity improvement through better use of human resources, financial resources, natural resources and man-made structures and equipment. IEs apply analytical, simulation, and experimental tools to design, planning, implementation, and operational problems in a wide variety of organizations such as banks, hospitals, consulting firms, transportation, construction, processing, manufacturing, electronics, social services, and government at all levels. The focus of industrial engineering is on process improvement.

**Sequence of Courses**

The BS in industrial engineering program requires the completion of 128 semester hours plus Engr. 310 for graduation, minus hours commensurate with advanced placement credit. 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 student to tailor their study to their individual interests and needs. Students' programs of study are determined in consultation with their faculty advisors.

Specific requirements and a suggested schedule for the manufacturing engineering program are given below. Note that the manufacturing engineering program is undergoing a review which may result in a revision of the current curriculum by the time this Catalog is published.

**Model Program**

**Freshman Course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl. 101/100 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Comm. 111, Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Math. 242Q and 242, Calculus I and II</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 313Q, University Physics I</td>
<td>4</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>IEN 222, Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>IMfgE 258, Manufacturing Method I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Sophomore Course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 511, Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>AE 223, Statics</td>
<td>3</td>
</tr>
<tr>
<td>ECE 229, Engineering Computing in C</td>
<td>3</td>
</tr>
<tr>
<td>ECE 282, Circuits I</td>
<td>4</td>
</tr>
<tr>
<td>IEN 254, Engineering Probability and Statistics I</td>
<td>3</td>
</tr>
<tr>
<td>IEN 255, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>IEN 452, Work Analysis and Design</td>
<td>3</td>
</tr>
<tr>
<td>IEN 524, Engineering Probability and Statistics II</td>
<td>3</td>
</tr>
<tr>
<td>IEN 550, Introduction to Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>Humanities, social science or fine arts electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Junior Course**

<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>Phys. 314Q, University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>Econ. 202Q, Principles of Economics (micro)*</td>
<td>3</td>
</tr>
<tr>
<td>ME 250, Materials Engineering</td>
<td>3</td>
</tr>
<tr>
<td>IEN 549, Industrial Ergonomics</td>
<td>3</td>
</tr>
<tr>
<td>IEN 553, Production and Inventory Control</td>
<td>3</td>
</tr>
<tr>
<td>IEN 554, Statistical Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>IEN 563, Facilities Planning and Design</td>
<td>3</td>
</tr>
<tr>
<td>IEN 565, Systems Simulation</td>
<td>3</td>
</tr>
<tr>
<td>Technical electives**</td>
<td>6</td>
</tr>
<tr>
<td>Humanities, social science or fine arts electives*</td>
<td>3</td>
</tr>
</tbody>
</table>

**Senior Course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 398, Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>Engr. 310, Seminar in Engineering</td>
<td>0</td>
</tr>
<tr>
<td>IEN 556, Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IEN 590, Industrial Engineering Design I</td>
<td>3</td>
</tr>
<tr>
<td>IEN 690, Industrial Engineering Design II</td>
<td>3</td>
</tr>
<tr>
<td>Technical electives**</td>
<td>6</td>
</tr>
<tr>
<td>Natural science electives</td>
<td>3</td>
</tr>
</tbody>
</table>

*To be chosen from an approved list available from the College of Engineering.

**Bachelor of Science Degree in Manufacturing Engineering**

Manufacturing engineering is concerned with converting raw materials and intermediate products into final and other intermediate products through the use of various design, processing, assembly, and automation techniques as well as the design and manufacturing of tools, jigs, and machines used in these processes. The strength of the BSMfgE program at Wichita State is its emphasis on the following three manufacturing engineering areas: materials and processes; product engineering and assembly; and, manufacturing quality and productivity. Manufacturing engineers can apply their broad and comprehensive skills in a wide spectrum of industries.

**Sequence of Courses**

The BS in manufacturing engineering program requires the completion of 135 semester hours plus Engr. 310 for graduation, minus hours commensurate with advanced placement credit. 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 their individual interests and needs. Students' programs of study are determined in consultation with their faculty advisors.

Specific requirements and a suggested schedule for the manufacturing engineering program are given below. Note that the manufacturing engineering program is undergoing a review which may result in a revision of the current curriculum by the time this Catalog is published.

**Model Program**

**Freshman Course**

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</tr>
<tr>
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<td>10</td>
</tr>
</tbody>
</table>
Phys. 313Q and 315Q, University Physics I and II
Chem. 111Q, General Chemistry
ECE 229, Engineering Computing in C
ME 250 and 251, Materials Engineering
AE 223, Statics
ME 388, Thermodynamics
IEN 222, Engineering Graphics
IEN 254, Engineering Probability and Statistics
IEN 255, Engineering Economy
MfgE 558, Manufacturing Methods and Materials I
MfgE 575, Computer Aided Manufacturing
Technical electives*
Humanities, social science or fine arts electives*... 6

Sophomore
Course
Math. 344, Calculus III
Comm. 111, Public Speaking
AE 223, Statics
ME 388, Thermodynamics
IEN 222, Engineering Graphics
IEN 254, Engineering Probability and Statistics
IEN 255, Engineering Economy
MfgE 558, Manufacturing Methods and Materials I
MfgE 575, Computer Aided Manufacturing
Technical electives*
Humanities, social science or fine arts electives*... 6

Junior
Course
Math. 555, Ordinary Differential Equations with Linear Algebra
AE 333, Mechanics of Materials
IEN 524, Engineering Probability and Statistics II
IEN 554, Statistical Quality Control
IEN 664, Engineering Management
MfgE 502, Metrology
MfgE 645, Manufacturing Systems
Engineering
Technical electives*
Humanities, social science or fine arts electives*... 6

Senior
Course
Phys. 314Q, University Physics II
Engr. 310, Seminar in Engineering
ECE 228, Circuits I
ME 439, Mechanical Engineering Design
IEN 590, Manufacturing Engineering Design I
MfgE 690, Manufacturing Engineering Design II
Technical electives*
Natural science electives
Humanities, social science or fine arts electives*... 6

*To be chosen from an approved list available from the College of Engineering.

Industrial Engineering

Lower-Division Courses

101. Introduction to Industrial and Manufacturing Engineering. (1) Cross-listed as MfgE 101. An introduction and overview of the discipline areas within industrial and manufacturing engineering. Combines design, case study, and hands-on experience with lectures on the different emphasis areas.

150. Workshop in Industrial Engineering. (1-3). Offered from time to time on various topics in industrial engineering.

222. Engineering Graphics. (3). The use of computer graphics to produce technical drawings and solve engineering design problems. Studies basic spatial relationships involving orthographic projections, auxiliary views, and pictorial projections. Design implementation includes dimensioning, tolerancing, sectional views, thread detail, blue print reading, and working drawings. Also uses descriptive geometry to find true lengths of lines; spatial relationships between points, lines, and planes; and intersections of solids, surfaces, and conic sections. Prerequisite: Math. 123 or equivalent.

250. Topics in Engineering Graphics. (2). 1 R. The application of engineering graphics to the study of special problems and to methods of conveying information. Prerequisite: IEN 222.


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. Intended for students who will be working full time on their co-op assignment and need not be enrolled in any other course. May be repeated. Offered CR/NC only. Prerequisites: 30 hours toward bachelor of science in industrial engineering degree and approval by appropriate faculty sponsor.

Upper-Division Courses

452. Work Systems. (3). The documentation, measurement, and design of work systems. Includes work measurement systems, methods engineering, work sampling, predetermined time systems, and economic justification. Prerequisites: IEN 254 and 255.

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 IEN 281P. Prerequisite: junior standing and approval by appropriate faculty sponsor.

Courses for Graduate/Undergraduate Credit

524. Engineering Probability and Statistics II. (3). A study of hypothesis testing, regression analysis, analysis of variance, correlation analysis, and design of experiments emphasizing applications to engineering. Prerequisite: IEN 254 or Stat. 471.


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: IEN 524.

556. Information Systems. (3). Provides a basic understanding of information systems in a modern enterprise, including database design, information technology, and ethics using hands-on activities and directed classroom discussion. Prerequisites: IEN 452 and ECE 229.


563. Facilities Planning and Design. (2). Quantitative and qualitative approaches to problems in facilities planning and design, emphasizing activity relationships, space requirements, materials handling and storage, and plant layout. Prerequisites: IEN 550 and MfgE 428. Corequisite: IEN 452.

590. Industrial Engineering Design I. (3). An industry-based team design project utilizing industrial engineering principles; performed under faculty supervision. May not be counted toward graduate credit. May not get credit in both IEN 590 and MFG. E. 590. Prerequisites: IEN 549, 553, be within one year of graduation, and have department consent.

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: IEN 254 or Stat 471.


690. Industrial Engineering Design II. (3). Continuation of the design project initiated in IEN 590 or the performance of a second industrial engineering design project. May not be counted toward a graduate industrial engineering major. May not get credit in both IEN 690 and MFG. E. 690. Prerequisites: IEN 590 and department consent.


740. Analysis of Decision Processes. (3). Decision analysis as it applies to capital equipment selection and replacement, process design and policy development. Explicit consideration of risk, uncertainty and multiple attributes is developed and applied using modern computer aided analysis techniques. Prerequisites: IEN 254 and 255.

749. Advanced Ergonomics. (3). A continuation of IEN 549. Includes principles and application of human factors to the design of the workplace, displays, control systems, hand tools and video display terminals. Prerequisite: IEN 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: IEN 524.

755. Design of Experiments. (3). Application of analysis of variance and experimental design for engineering studies. Includes general design methodology, single-factor designs, randomized blocks, factorial designs, fractional replication, and confounding. Prerequisite: IEN 524 or instructor's consent.


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: IEN 254 and 255.

770. Industrial Automation. (3). Teaches the design and application of manufacturing automated systems. Discusses automation components, such as sensors, actuators and microprocessors, along with the use of programmable logic controllers. Introduces other areas of automation, such as robotics, machine vision, DNC machine tools, and their integration into automated system. Prerequisite: ECE 239 or knowledge of a programming language.

775. Computer Integrated Manufacturing. (3). A study of the concepts, components and technologies of CIM systems, enterprise modeling for CIM, local area networks, CAD/CAD interfaces, information flow for CIM, shop floor control and justification of CIM systems. Prerequisite: IEN 239 or knowledge of a programming language, IEN 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: departmental consent and graduate GPA of 3.00 or above. CR/NCR only.

782. Assembly Design and Planning. (3). Studies various topics related to design, planning, and execution of mechanical assemblies. Includes joining processes, design for assembly (DFA) principles, assembly design, product modeling, product data management, assembly sequencing, and assembly tool design. Prerequisite: Mfg. E. 258 and ECE 239 or knowledge of a programming language.

785. Tolerancing in Design and Manufacturing. (3). Provides a basic understanding of the theory and application of tolerancing in design, manufacturing, and inspection. Reviews current literature in the area of tolerancing and inspection. Includes detailed discussion of the ASME standards on geometric dimensioning and tolerancing (GD&T), GD&T verification procedures, tolerance analysis and allocation, statistical tolerancing, and Taguchi's approach to tolerancing.

Courses for Graduate Students Only

835. Applied Forecasting Methods. (3). A study of the forecasting methods, including smoothing techniques, time series analysis and Box-Jenkins models. Prerequisite: IEN 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: IEN 565 and 524.

854. Quality Engineering. (3). A broad view of quality tools and their integration into a comprehensive quality management and improvement system. Covers the theory and approaches of the major quality leaders such as Deming, Juran, and Crosby. Explores off-line and on-line quality engineering techniques, including cost of quality; the seven "old" and seven "new" tools, Quality Function Deployment, and statistical process control methods. Explores design of engineering experiments, including Taguchi's methods. Prerequisite: IEN 524.

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: IEN 549.


877. Foundations of Neural Networks. (3). For students from a variety of disciplines. Introduces the theory and practical applications of artificial neural networks. Covers several network paradigms, emphasizing the use of neural networks as a solution tool for industrial problems which require pattern recognition, predictive and interpretive models, pattern classification, optimization, and clustering. Presents examples and discusses them from a variety of areas including quality control, process monitoring and control, robotics control, simulation modeling, econometric and dynamic models, diagnostic models, combinatorial optimization, and machine vision.

878. MS Directed Project. (1-3). A project conducted under the supervision of an academic advisor for the directed project option. Requires a written report and an oral presentation on the project. Graded S/U only. Prerequisite: consent of academic advisor.

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. Prerequisite: IEN 550.

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: IEN 549.

590. 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: IEN 549 and AE 223.

595. Knowledge-Based Systems. (3). Introduction to the concepts and techniques in knowledge-based systems or expert systems. Includes design and development of knowledge bases using microcomputer-based software. Prerequisite: ECE 239 or AE 227 or departmental consent.

590. Advanced Selected Topics. (1-3). New or special courses on advanced topics presented under this listing on sufficient demand. Prerequisite: instructor’s consent.

596. Advanced Independent Study. (1-3). Arranged individual, independent study in specialized content areas. Repeatable toward the PhD degree. Prerequisites: advanced standing and departmental consent.

Manufacturing Engineering

Lower-Division Course

101. Introduction to Industrial and Manufacturing Engineering. (1). Cross-listed as IEN 101. An introduction and overview of the discipline areas within industrial and manufacturing engineering. Combines design, case study, and hands-on experience with lectures on the different emphasis areas.

208. Manufacturing Methods and Materials I. (3). Provides an introduction to the major manufacturing processes. The processes covered are: forging, milling, casting, machining, metal forming, extrusion, casting, and joining processes. Students gain an extensive laboratory experience on different manufacturing processes. Prerequisite: Math 123 or equivalent.

254. Manufacturing Tools and Processes. (3). Introduces the concepts of concurrent engineering, tool design, fixture design, jig design, presswork tools design, and mold design. Also includes the fundamentals of design and measuring, fabrication processes, assembly tooling and processes. Prerequisite: Mfg. E 258.


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 computer technology and part family formation. Prerequisites: Mfg. E 258 and ECE 239 or equivalent.

590. Manufacturing Engineering Design I. (3). First of two capstone design project courses utilizing manufacturing engineering principles, performed under faculty supervision, for solving practical problems. May not be counted toward a graduate or industrial engineering major. May not get credit in both IEN 590 and Mfg. E 590. Prerequisites: must be taken during the year of graduation and departmental consent.

622. Computer Aided Design. (3). Intended as an introduction to 3-D computer graphics. Discusses concepts of CAD/CAM/CIM, design theory and automation, knowledge-based CAD systems and the use of AI tools in CAD. Describes the design interchange standards and the interface between CAD/CAM. Prerequisites: IEN 222, ECE 239 or equivalent, and Math 555.

639. Applications of Finite Element Analysis in Mechanical Engineering Systems. (3). Introduces the finite element method as a powerful and general tool for solving problems related to mechanical engineering systems. Applies finite element techniques to one and two dimensional mechanical engineering problems in fluid mechanics, heat transfer, solid mechanics, and mechanical systems design. Introduces commercial finite element computer tools such as ALGOR and ANSYS. Prerequisite: ME 439, ME 522 or equivalent.

645. Manufacturing Systems Engineering. (3). A study of the design, planning, implementation, and control of manufacturing systems. Discusses types of manufacturing systems, material requirement planning, capacity planning, facilities planning, scheduling, and an introduction to computer aided process planning. Prerequisite: Mfg. E 558.

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: Mfg. E 558.

658. Forming Processes. (3). Introduces 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: AE 333.

690. Manufacturing Engineering Design II. (3). Continuation of the project initiated in Mfg. E 590 or a second industry-based design project. May not be counted toward a graduate or industrial engineering major. May not get credit in both IEN 690 and Mfg. E 690. Prerequisites: Mfg. E 590 and departmental consent.

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 inlet ducts 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 possibilities, 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 135 semester hours for graduation, minus hours commensurate with advanced placement credit plus Eng. 310. Specific requirements and a suggested course of study for the mechanical engineering program follow.

**Model Program**

**Freshman**
- **Course**
  - **Course**
  - **Cr.**
  - **Course**
  - **Cr.**
  - **Course**
  - **Cr.**
  - **Course**
  - **Cr.**

**Sophomore**
- **Course**
  - **Course**
  - **Cr.**
  - **Course**
  - **Cr.**

**Junior**
- **Course**
  - **Course**
  - **Cr.**
  - **Course**
  - **Cr.**

**Senior**
- **Course**
  - **Course**
  - **Cr.**

**Lower-Division Courses**

101. Introduction to Machines and Design. (2, 3L) 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. Students 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). Provides specialized instruction in areas relevant to mechanical engineering. Variable format. Repeatable for credit.

250. Materials Engineering. (3). Studies important structural materials used in engineering, including metals, polymers, and composites, primarily from a phenomenological viewpoint. Prerequisite: Chem. 111Q, Math. 242.


**Upper-Division Courses**

339. Design of Machinery. (3). Introduces engineering design process; synthesis and analysis of machinery and machines. Kinematics (position, velocity and acceleration) and inverse dynamic analysis of planar mechanisms by analytical, graphical and computer methods. Design of linkages for motion, path and function generation; cam design. Computer-aided engineering as an approach in engineering design; projects on practical engineering designs for machinery. Prerequisite: IEN 222. Corequisite: AE 373.

360. Selected Topics in Mechanical Engineering. (1-3). New or special topics presented on sufficient demand. Repeatable for credit when subject material warrants. Prerequisites: as published or departmental consent.

398. 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.


439. Mechanical Engineering Design I. (3). Principles of mechanical design, emphasizing practice in the application of many mechanical design elements—shafts, bearings, gears, brakes, clutches, thread fasteners, etc. Includes machine elements design, materials election, fatigue, stress concentration, statistical concepts and cost standardization. Innovative approaches for demanding integrations of machine elements into a practical device. Prerequisites: ME 250 and 251, AE 333, and Math. 555.

450. Selected Topics in Mechanical Engineering. (1-3). New or special topics presented on sufficient demand. Repeatable for credit when subject material 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. Exposes the student to a wide range of business topics, including market gap analysis, financial planning, incentive programs, personal decision making, and business plan preparation, in addition to standard engineer-
469. Energy Conversion. (3). Energy conversion principles and their implementation in engineering devices including thermal, mechanical, nuclear, and direct energy conversion processes. Prerequisite: ME 398.

481A. Co-op Education. (1-3). 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 full-time on their co-op assignment and need not be enrolled in any other course. Prerequisites: junior standing and approval by the appropriate faculty sponsor. May be repeated. Offered C/NC only.

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 part-time on their co-op assignment and be currently enrolled in courses leading to a mechanical engineering degree. Prerequisites: junior standing and approval by the appropriate faculty sponsor. May be repeated. Offered C/NC only.

Courses for Graduate/Undergraduate Credit

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 398 with grade of C or better.


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. Prerequisite: ME 521.

523. Fluid and Heat Flow Laboratory. (1). Laboratory course designed to illustrate and reinforce the concepts in ME 521 and ME 522. Prerequisite: ME 521; corequisite: 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. Prerequisite: ME 439.

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.

602. Engineering for the Environment. (3). Engineering for the environment, air, water, and noise pollution, and handling of hazardous wastes. Covers briefly the main pollutants, their major sources, their effects, and their attainment levels set by the U.S. Environmental Protection Agency. Emphasizes engineering systems for pollution control. Prerequisites: ME 398, AE 223, IEN 255, ECE 282, or departmental consent.

611. 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, plat, and fluidized bed heat exchangers. Designers, recuperators, and regenerators. Prerequisites: ME 521 and 522 or equivalent.


639. Applications of Finite Element Methods in Mechanical Engineering. (3). Introduces the finite element method (FEM) as a powerful and general tool for solving differential equations, arising from modeling practical engineering problems. Finite element solutions to one and two dimensional mechanical engineering problems in fluid mechanics, heat transfer, solid mechanics, and vibrations. Includes Galerkin's and variational finite element models. Introduces commercial finite element computer tools such as ALGOR and ANSYS. Prerequisites: ME 439, 522 or equivalent.

641. Thermal Systems Design. (3). Modeling, simulation, and optimization tools in the design of thermal systems. Engineering design principles, characteristics of thermal equipment, and economic considerations. Studies open-ended problems, including work on design projects in small groups. Prerequisites: ME 502 and 521.

650. 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.

653. Internal Combustion Engines (3). A broad coverage of the basics of internal combustion engines with emphasis on spark ignition types and configurations and important variables used to evaluate performance and efficiency. Fundamentals learned in thermodynamics, chemistry, and mechanical design are used to understand engine design, performance, and control. Applications discussed are focused primarily on automotive use and involve power output, fuel consumption, and exhaust emissions. Prerequisite: ME 398.


662. Mechanical Engineering Practice. (3). A laboratory course designed to illustrate and reinforce the concepts in ME 521 and ME 522. Examines mechanical engineering science and design courses. Team effort and both oral and written presentations are a part of the experience. Open only to mechanical engineering students in their last semester of study. Prerequisite: last semester of study.

664. Introduction to Fatigue and Fracture. (3). Deals with the primary analytical methods used to quantify fatigue damage. These are the stress life approach, strain life approach and the fracture mechanics approach. Prerequisites: ME 250 and AE 333.

665. Selection of Materials for Design and Manufacturing. (3). Focuses on the selection of engineering materials for a 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.

666. Materials in Manufacturing Processes. (3). Deals with fundamental principles of materials and their applications to manufacturing processes. Prerequisite: ME 250.

Major focus on deformation mechanisms and on crystal defects that significantly affect mechanical properties. Also covers plasticity theory, yield criteria for multi-axial states of stress, fracture mechanics, and fracture toughness. Includes some review of basic mechanics of materials and elasticity as needed. Prerequisite: ME 250 or departmental consent.

669. 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.

678. Studies in Mechanical Engineering. (1-3) A

Student of 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.

719. Basic Combustion Theory. (3).

Introduction to the fundamental principles of combustion processes. Examines the chemistry and physics of combustion phenomena, i.e., detonation and flames, explosion and ignition processes. Prerequisites: Chem. 111Q and ME 502.


Modeling and analysis of planar motion for multibody mechanical 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. Emphasizes dynamic system modeling, prediction of natural frequencies and forced response, effect of support flexibility, failure theories used in design, and fatigue life prediction. Typical mechanical systems studied are gears, bearings, shafts, rotating machinery, and many types of spring-mass systems. Uses fundamentals learned in mechanics, strength of materials, and thermal sciences to understand mechanical system modeling, analysis, and design. Prerequisite: ME 541 or instructor's 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 which is 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.

750. Special Topics in Mechanical Engineering. (1-3). A new or special topics are presented on sufficient demand. Repeatable for credit when subject matter warrants. Prerequisite: departmental consent.

755. Intermediate Thermodynamics. (3).

Laws of thermodynamics, introduction to statistical concepts of thermodynamics, thermodynamic properties, chemical thermodynamics, Maxwell's relations. Prerequisite: ME 502 or departmental consent.

759. Neural Networks for Control. (3).

Introduces specific Neural network architectures used for dynamic system modeling and intelligent control. Includes theory of feed-forward, recurrent and Hopfield networks; applications in robotics, aircraft and vehicle guidance, chemical processes, and optimal control. Prerequisite: ME 659 or departmental consent.

760. Fatigue and Fracture. (3).

Covers fracture mechanics in metals, ceramics, polymers and composites. Suitable for graduate and undergraduate study in metallurgy and materials, mechanical engineering, civil engineering and aerospace engineering where a combined approach is stressed. Prerequisite: ME 250 or departmental consent.

762. Polymeric Composite Materials. (3).

A basic understanding and knowledge about the structure and mechanical properties of polymeric composite materials in detail. Discusses both short fiber and continuum fiber composites. Emphasizes special design considerations for composite materials including fracture mechanics and performance of composites under adverse conditions (fatigue and impact). Prerequisite: ME 250 or equivalent or departmental consent.

764. Thermodynamics of Solids. (3).

Presents basic thermodynamic concepts which will form the working tools throughout the course. Emphasizes the interpretation of certain types of phase diagrams—not upon the use of thermodynamics to assist phase diagram construction but upon the use of phase diagrams to obtain thermodynamic quantities. Also, the thermodynamics of defects and defect interactions in metals, ceramics, polymers, elemental semiconductors, and compounds. Prerequisites: ME 250 and 398 or departmental consent.

766. SEM and EDAX. (3).

Gives student's knowledge of Scanning Electron Microscopy (SEM), a powerful tool in materials science and engineering which can be used to analyze structural defects in materials. Discusses both the theory and experimental methods, as well as the application of these methods. Prerequisite: ME 250 or departmental consent.

767. X-Ray Diffraction. (3).

Theory of X-ray diffraction, experimental methods and their applications which can include determination of the crystal structure of materials, chemical analysis, stress and strain measurements, study of phase equilibria, measurement of particle size, and determination of the orientation of a single crystal. Prerequisites: ME 250 and AE 333 or departmental consent.

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 mechanical engineering. Repeatable for credit. May not be used to satisfy degree requirements. Prerequisite: graduate standing, department's consent and graduate GPA of 3.00 or above. Offered Cr/NC only.

*Normally not permitted for use toward the graduate degree in mechanical engineering.

Courses for Graduate Students Only

801. Boundary Layer Theory. (3).

Development of the Navier-Stokes equation, laminar boundary layers, transition to turbulence, turbulent boundary layers and an introduction to homogeneous turbulence. Prerequisite: ME 521 or departmental consent.

802. Turbulence. (3).

An overview of the theory, practical significance and computation of turbulent fluid flow. Prerequisites: ME 521 and 801.


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. Emphasizes 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 and intended to be representative of the current state-of-the-art in classical and modern control practice. Prerequisite: ME 659 or equivalent.

850. 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.

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.


860. Introduction to Ceramics. (3). Introduces the fundamental principles of ceramic science and engineering with application on ceramics processes and fabrications. Presents the concepts and properties utilizing the crystal structure background. Discusses nonequilibrium aspect of phase relation in ceramics systems and their influence on processing parameters. Covers the microstructure form by liquid, liquid-solid, and solid-state reaction with some detail in combination with with heat treatment. Students are expected to have backgrounds in chemistry, physics, math, thermodynamics, mechanics of solids, and introduction to materials in undergraduate engineering courses.

864. Physical Metallurgy. (3). Covers a range of basic concepts in physical metallurgy essential for further studies in materials engineering. Topics include structure and diffraction, dislocations, defects and thermal processes, solid solution and hardening, diffusion, and phase diagrams and transformations. Prerequisites: ME 250 and 398, AE 333 or 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, AE 333 or departmental consent.

867. Mechanical Properties of Materials II. (3). After a brief review of pertinent concepts of the macro-mechanical behavior of deformable bodies, course focuses on deformation mechanisms and on crystal defects that significantly affect mechanical properties and strengthening mechanisms. This includes point, line and planar crystalline defects, dislocation dynamics, various hardening and strengthening mechanisms. Concludes with discussion of physical properties and testing methods to measure these properties. Prerequisite: ME 667 or 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.

878. MS Directed Project. (1-3). A project conducted under the supervision of an academic advisor for the directed project option. Requires a written report and an oral presentation on the project. Graded S/U only. Prerequisite: consent of academic advisor.

890. Independent Study in Mechanical Engineering. (1-3). Arranged individual, independent study in specialized content areas. Prerequisite: instructor’s 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. Prerequisite: ME 767, Math. 757.


960. Advanced Selected Topics. (1-3). New or specialized advanced topics in mechanical engineering. Prerequisite: instructor’s consent.

962. Advanced Ceramics. (3). Covers concepts in ceramics science and engineering essential to understanding and using advanced ceramic materials such as high temperature metalocermics. Expands coverage of fundamental concepts and physical properties presented in ME 860. Provides deeper understanding of crystalline solids and characteristic properties of ceramics. Incorporates many of the most recent advances in the area. Students are expected to have backgrounds in chemistry, physics, math, thermodynamics, mechanics of solids, and introduction to materials in undergraduate engineering courses.


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.
College of Fine Arts

Walter J. Myers, Dean
415 Jardine Hall • (316) WSU-3389
finearts.twusu.edu/finearts/

The College of Fine Arts is responsible for instruction, scholarly inquiry, performance, teacher education (excepting theatre/dance), and applied study in music, dance, theatre, and visual arts. The School of Art and Design, the School of Music, and the School of Performing Arts (Dance, Theatre, and Musical Theatre) offer both general arts study and professional training programs at the undergraduate level; professional degrees are offered at the graduate level.

Students are presented with a complete spectrum of choices according to their interest in professional activities, teaching careers, graduate study, or acquiring an appreciation of the arts. They 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 Division of Dance is accredited by the National Association of Schools of Dance. Both programs adhere to requirements for entrance and graduation that accord with the associations' published criteria.

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, opera performance, 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 2.000 or above to remain in good standing (see Academic Probation and Dismissal Standards, p. 16).

Transfer students must present an earned GPA of 2.000 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 1.700 but less than 2.000 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 2.000. Students enrolled in either the music education or art education programs must meet specific curriculum and GPA requirements prior to acceptance into student teaching; call or consult the Associate Dean of Students and Certification in the College of Education, (316) 978-3303.

Students who do not achieve or maintain the required 2.000 grade point average will be placed (or continued) on probation at the conclusion of each semester in which their overall WSU grade point average falls below 2.000. Students on probation are limited to a maximum of 12 credit hours per semester while on probation. Students 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 2.000 on work at Wichita State before probation may be lifted. If a grade point average of 2.000 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 relevant school Curriculum and Policy Committee in the College of Fine Arts and by the University's Committee on Admissions and Exceptions.

General Education Requirements—

For students entering fall 1995 or later

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

Lower-Division Course

101. Introduction to the University. (3). An elective class which helps the incoming freshman or transfer student make an easier transition to the demands of a four-year university. Includes personal assessment, time management, learning styles, career exploration, library/study/test taking skills, and campus policies/procedures and resources. Students taking this class have been shown to do better academically and enjoy their experience more, and are more likely to complete their degree.

Upper-Division Courses

301. An Introduction to Entrepreneurship in the Arts. (3). General education further studies course. 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. Gives attention to elementary concepts of marketing artistic talents, goal setting, financing, legal issues, and public demographics.

481. Cooperative Education. (1-8). A field placement which integrates coursework with a planned and supervised professional experience designed to complement and enhance the student's academic program. May be repeated for credit. Prerequisite: satisfactory academic standing prior to the first job assignment.

Course for Graduate/Undergraduate Credit

590. Special Topics in the Fine Arts. (1-4). For group instruction. May be repeated for credit. Involves interdisciplinary upper division/graduate level topics with the fine arts (music, art, dance, and theatre). 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: graphic 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 provides 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 may 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, but 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, graphic design, or art education are available in the office of the School.

Certificate in Decorative and Ornamental Painting and Design

The 18-credit hour Certificate in Decorative and Ornamental Painting and Design offers introductory studio courses in color theory, drawing, and painting which lead to advanced and terminal project course work in decorative and ornamental media. Students focus on the historical relevance, technical and stylistic influences, aesthetic value, and effective utilization of decorative and ornamental painting and design. Contemporary art, utilitarian art, theatre applications, historical restoration, and preservation of buildings will be studied. The certificate is recognized by the National Society of Tole and Decorative Painters, Inc.

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 studio art or graphic design. 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 and the required introductory art courses prepare 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 (21 hours), art electives (9 hours), and the concentration (24 hours). The specific requirements for the BFA with a concentration in art, 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 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 sensitivities essential to the professional artist or designer.

The School of Art and Design offers the Bachelor of Fine Arts degree (BFA) in graphic 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 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 (BAE) 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 daily 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 (21 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 generation of color as used in visual communications. Instructional process includes lecture, critique, and supervised studio practice. Prerequisite: Art F. 136.

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 combination 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 program offers the BA degree in art history and also offers support courses for graphic design, art education, studio art, and general education. Students develop a fundamental knowledge of art and architecture within a cultural and historical framework, and an understanding of 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 art education.

Bachelor of Arts in Art History
The Bachelor of Arts degree in art history has a liberal arts perspective and is the initial professional degree that prepares the student for graduate study in art history. The primary emphasis is on the monuments and artists of all major art periods of the past, a broad understanding of the art of the 20th century, and acquaintance with the art history of non-Western cultures. 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.

Requirements. A major in art history requires the completion of a minimum of 124 credit hours, including the University’s General Education Program and 36 course hours in art and art history (9 hours in lower-division courses, 6 hours in the foundation curriculum, and 21 hours of upper-division work) with a minimum grade point average of 2.000. Among the upper-division courses, the student must complete Art H. 426 (normally taken in the junior or senior year) and at least one other course at the seminar level. Students are required to have a reading proficiency in at least one foreign language to support research through the reading of primary source materials. The language requirement is normally fulfilled in French or German, but Spanish, Latin, or Ancient Greek can be substituted with the advisor’s permission. Each student is required to prepare a plan of study with their advisor leading to candidacy for a degree no later than their junior year. Art history majors are also encouraged to complete a minor in a related area of the arts, humanities, or social sciences.

Area
Introductory Art History: three courses from the following: ........................................... 9
Art H. 121G, Survey of Western Art: Ancient
Art H. 122G, Survey of Western Art: Renaissance and Baroque
Art H. 123, Survey of Western Art: Medieval
Art H. 124, Survey of Western Art: Modern
Art H. 125, Non-Western Visual Traditions: North American Indian, Oceanic, and Africa Art
Foundation Curriculum: two courses from the following: ........................................ 6
Art F. 136 & 137, Design I & II
Art F. 145 & 146, Drawing I & II
Art F. 189, 3-D Design
Art History Concentration: five upper-division or 500-level courses chosen in consultation with faculty advisor ........................................... 21
Art H. 426, Seminar, Techniques of Art History
Art H. 520, Seminar in Art History or 533, Seminar: Topics in Modern Art

Minor in Art History
A minor in art history complements other degree programs in the School of Art and Design, as well as degrees in anthropological, classical studies, history, and women’s studies in Fairmount College of Liberal Arts and Sciences. The requirement is 18 semester hours in art history, with 9 hours in lower-division courses and 9 hours in upper-division work chosen in consultation with the student’s art history advisor.

Lower-Division Courses
100. Introduction to Art in the Western World. (3). Provides general students (not art majors) with some visual and intellectual tools, enabling them to confront and experience a number of the more significant works of art in the history of Western Culture.

>121G. Survey of Western Art: Ancient. (3). General education introductory course. A historical survey of art of Egypt, Greece, and Rome.

>122G. Survey of Western Art: Renaissance and Baroque. (3). General education introductory course. A historical survey of art from the Renaissance to the 18th century.

123. Survey of Western Art: Medieval. (3). A historical survey of early Christian and Gothic art and architecture from the 5th through 14th centuries.

>124. Survey of Western Art: Modern. (3). General education introductory course. 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.

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.

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). General education further studies course. A study of the art of Europe and Byzantium from the time of Constantine to Charlemagne. Emphasizes style and iconography as it develops in mosaics and illustrated manuscripts.

>323. Medieval Art II. (3). General education further studies course. A study of Romanesque and Gothic architecture and sculpture with special attention to the developments in France.

>325. Art of the Ancient Near East and Egypt. (3). General education further studies course. A study of the arts of ancient Egypt, Mesopotamia, and the Bronze Age cultures of the Aegean, concluding with a consideration of the interaction between Near Eastern and classical art. Prerequisite: Art H. 121G or instructor’s consent.

326. Architecture. (3). Studies architecture as both a fine art and historical discipline. The design and historical roots of 20th-century architecture lead toward an understanding of the context of modern architecture. Explores, through study of major monuments and indigenous architecture from the Neolithic through the Renaissance, the relationship of architecture to the societies that produced them. Also includes the role of architecture in contemporary society and the responsibilities of the designer, the historical development of urban planning, and the use of traditional and industrial materials and methods in the past and present.

>421G. Greek Art and Architecture. (3). General education further studies course. A study of Greek art and architecture beginning with the Bronze Age and concluding with the Hellenistic period. Emphasizes understanding Greek art in its context and the methods and sources used in its analysis. Prerequisite: Art H. 121G or instructor’s consent.

>422. Roman Art and Architecture. (3). General education further studies course. A study of
Roman art and architecture beginning with their predecessors, the Etruscans, and concluding with early Christian art. Emphasizes understanding Roman art in its context and the methods and sources used in its analysis. Prerequisite: Art H. 121G or instructor's consent.

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 reports. Prerequisite: instructor's consent.


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). General education further studies course. Painting, sculpture, and architecture in Italy from the 13th to the 16th centuries. Prerequisite: Art H. 122G or instructor's consent.

522. Southern Baroque. (3). General education further studies course. Painting and sculpture in Spain and Portugal from 1600 to 1750. Prerequisite: Art H. 122G or instructor's consent.

523. 18th and 19th Century European Art. (3). General education further studies course. A history of European art from Watteau through post-impressionism.

524. 18th and 19th Century American Art. (3). General education further studies course. A history of American art from the colonial period through the 19th century.


526. Art Since 1945. (3). General education further studies course. A study of the history of art in the United States from 1945 to the present, stressing the relationship between contemporary 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.

530. The Art of Classical Greece. (3). General education further studies course. A study of the painting, sculpture and architecture of Greece during the 5th and 4th centuries B.C.

531. The Art of Hellenistic Greece. (3). General education further studies course. 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 readings and projects. Prerequisite: instructor's consent.

533. Seminar: Topics in Modern Art. (1-3). Selected readings and problems in art of the modern era. Course content varies but individual areas are not repeatable for credit.

534. History of Photography. (3). History of photography stressing techniques, media, processes, interrelations with other visual arts, style questions, genres, and criticism.

535. Northern Renaissance. (3). General education further studies course. Painting and sculpture in Flanders, France, Germany, and the Netherlands in the 14th through 16th centuries. Prerequisite: Art H. 122G or instructor's consent.

536. Northern Baroque. (3). General education further studies course. Painting and printing in Flanders and Holland from 1660 to 1750. Prerequisite: Art H. 122G or instructor's consent.

732. Independent Study in Art History. (1-3). Directed readings and projects. Prerequisite: instructor's consent.

Courses for Graduate Students Only

828-829. Thesis. (2; 2).

832. Independent Study. (1-3). Individually supervised work in a specialized area of the study of art history. Directed readings and projects. Repeatable for credit. Prerequisite: suitable preparation for graduate work in art history (e.g., BA or BFA in art history) and instructor's consent.

Graphic 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, illustration, and television.

Bachelor of Fine Arts in Graphic Design

The design area offers the Bachelor of Fine Arts in Graphic Design which is the professional education and training degree for the visual communication arts field. The Foundation Curriculum and the preparatory course work in the graphic design program enables design majors 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 Art G. 434 and 435 during their final two semesters.

The graphic design concentration provides students with courses in typographical, illustration, photography, book design, advertising, computer graphics, and design.

Requirements. A minimum total of 126 hours is required for the BFA in Graphic Design and includes 84 semester hours of art courses listed below.

Area

Foundation Curriculum

Art F. 136 & 137, Design I & II
Art F. 145 & 146, Drawing I & II
Art F. 189, 3-D Design
Art F. 240, Life Drawing

Art History

Art H. 124, Survey of Western Art: Modern
Art H. 300+

Introductory Art

Art G. 200, Introduction to Computer Graphics
Art G. 216, Typography I
Art G. 234, Graphic Design Studio I
Art G. 235, Graphic Design Studio 2
Art G. 238, Materials and Graphic Processes
Art G. 316, Typography 2
Art G. 330, Still Photography for Graphic Design

Art electives

Art G. 334, Graphic Design Studio 3
Art G. 335, Graphic Design Studio 4
Art G. 337, Drawing for Visual Communication 1
Art G. 353, Junior Portfolio Review
Art G. 434, Graphic Design Studio 5
Art G. 435, Graphic Design Studio 6
Art G. 437, Drawing for Visual Communication 2
Art G. 439, Graphic Design Senior Exhibition

Note: 40+ upper-division hours are required for graduation.

Courses eligible for the concentration and electives:
Art G. 331, Film/Video for Graphic Design
Art G. 339, Package Design
Art G. 350, Graphic Design Workshop
Art G. 430, Television for Graphic Design
Art G. 431, Design Media Topics
Art G. 431, Multimedia
Art G. 439, Editorial Illustration
Art G. 481, Cooperative Education
Art G. 493, Book Design Production
Art G. 530, Advanced Television
Art G. 530, Advanced Computer Graphics
Art G. 550, Graphic Design Workshop
Art C. 530, Advanced Computer
Art S. 340, Life Drawing Studio
Art S. 250, Introductory Oil Painting
Art G. 439, Editorial Illustration
Art S. 362, Printmaking Intaglio
Art S. 365, Screenprint & Papermaking I
Art S. 545, Advanced Drawing Studio
Art S. 549, Independent Study in Drawing
Art S. 560, Advanced Printmaking Studio-Intaglio
Art S. 561, Advanced Printmaking Studio-Lithography
Comm. 324, Introduction to Advertising
Comm. 570, Magazine Production
Comm. 626, Advertising Campaigns
Mkt. 300, Marketing
Thea. 345, Stage Lighting
Thea. 359, Directing I
Thea. 544, Advanced Stagecraft

*No more than two courses can be used to fulfill the concentration requirement.

Lower-Division Courses

200. Introduction to Computer Graphics. (3). Introduces computer graphic programs in the Macintosh computer environment. Prerequisites: Art F. 136 and 145 or instructor's consent.
216. Typography 1. (3). Introduces typography, including history, composing skill, character arrangement, and visual and informational hierarchal arrangements upon a single page. Prerequisites: Art F. 137 and 337.
230. Introduction to 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). Introduces film production. Students may be required to furnish their own cameras.
234. Graphic Design Studio 1. (3). Studies graphic design theory, philosophy, history, and approaches to problem solving in visual communication. Prerequisites: Art F. 136 and 137.
235. Graphic Design Studio 2. (3). An achronom layout course using single page applications that incorporate image and type. Prerequisite: Art G. 234.
238. Graphic Materials and Processes. (3). Introduces a variety of graphic processes and materials including printing processes, cut-paper technique, linoleum cutting, embossing, foil and blind stamping, letterpress printing, marbling, box building, and assorted binding and presentation techniques. Prerequisite: Art F. 137 or instructor's consent.
281. Cooperative Education. (1-8). Allows students to participate in the cooperative education program. Graded Cr/NC only.

Upper-Division Courses

316. Typography 2. (3). Studies type as form, symbol, and communication with exploration of letterforms and their applications utilizing traditional and computer skills and media. Prerequisites: Art G. 200 and 216.
330. Still Photography for Graphic Design. (3). Introduces 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. Students may be required to furnish their own cameras. Prerequisite: Art F. 137 or instructor's consent.
331. Film/Video for Graphic Design. (3). Introduces film and video with a design emphasis. Examines the language and theory of sequential and moving images in traditional film/television and computerized multimedia forms as applied to graphic design. Prerequisites: Art F. 137 and Art G. 200 and 330.
334. Graphic Design Studio 3. (3). Continuation of Art G. 235 emphasizing the use of color with image and type. Prerequisite: Art G. 235.
339. Package Design. (3). Box construction and surface treatment in product design. Prerequisites: Art G. 238 and 334.
350. Graphic Design Workshop. (1-3). Repeatable for credit. Area covered is determined at the time the course is offered.
353. Junior Portfolio Review. (1). A forum for the student to analyze and present their portfolio to the faculty and invited community design professionals for commentary. Prerequisite: prior to the last 30 hours or prior to entering senior standing within the graphic design program.
430. Television for Graphic Design. (3). Examination and application of creative technical design media aesthetics. Graphic design application of traditional 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 Studio 5. (3). Logo design and its application to graphic design. Prerequisite: Art G. 334. Repeatable for credit.
439. Editorial Illustration. (3). Concentration in editorial and narrative illustration emphasizing visualization and creative problem solving while exploring a variety of color media and technique. Prerequisite: Art G. 437. Repeatable for credit.
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.
453. Graphic Design Senior Exhibition. (2). A public exhibition of works produced for their superior demonstration of concept and layout execution involving a variety of visual communication problems. The student presents the exhibit in a professional manner. Prerequisite: completed during the last semester of the senior year.
493. Book Design and Production. (3). A laboratory course encompassing all facets of the book including design, type composition, proofreading, illustration, manufacturing, binding materials (cloths, paper, and boards), distribution, copyright, royalties, and remaining. Students are responsible for the development and production of a limited edition book. Prerequisites: Art G. 334 and 337, or instructor's consent.

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 Art**
The studio art area offers the Certificate in Decorative and Ornamental Painting and Design, BA in Studio Art and the BFA in Studio Art 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.

**Certificate in Decorative and Ornamental Painting and Design**
The certificate offers each student a broad range of experiences in a variety of media and processes in addition to an understanding and awareness of design and conceptual concerns in decorative ornamentation. Courses in color theory, drawing, oil painting, watercolor painting, acrylic painting, mixed media, ornamental design, and a terminal project are required of each student and provides the foundation for successfully completing ornamental commissions after the certificate is completed. The knowledge and experience attained from these courses allow each student the flexibility necessary to pursue individual directions in ornamental design at a professional level. Students are required to complete a terminal project in decorative and ornamental painting and design prior to completion of the certificate program.

Requirements: 18 semester hours are required for the certificate:

- **Certificate curriculum** .................................................. 18
  - Art F. 137, Foundation Design II
  - Art F. 145, Foundation Drawing I
  - Art S. 250 Introductory Oil Painting or Art S. 251, Introductory Watercolor Painting or Art S. 252, Introductory Acrylic Painting
  - Art S. 352, Decorative and Ornamental Painting and Design
  - Art S. 552, Advanced Decorative and Ornamental Painting and Design
  - Art S. 559, Terminal Project: Decorative and Ornamental Painting and Design

**Bachelor of Arts in Studio Art**
The Bachelor of Arts in Studio Art 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 Art and includes 60 semester hours of art courses as listed below.

**Area** | **Hrs.**
--- | ---
Core Curriculum | 12
Art F. 136, Design I | 1
Art F. 145, Drawing I | 1
Art F. 189, 3-D Design | 1
Art F. 240, Life Drawing | 1
Art History | 6
Art H. 124, Survey of Western Art: Modern | 3
Art H. 300+ | 2
Introductory Art | 15
Art F. 146, Drawing II | 1
Art S. 250, Introductory Oil Painting | 1
Art S. 260, Printmaking I | 1
Art S. 270, Basic Ceramics or 272, Handbuilding | 1
Art S. 280, Sculpture | 1
Fine Arts Electives | 12
Fine Arts courses which complement the Introductory Art courses and the Studio Art Concentration | 15
Studio Art Concentration | 15
Studio focus area in either ceramics, painting/drawing, printmaking, or sculpture.

Note: 40+ upper-division hours are required for graduation.

**Bachelor of Fine Arts in Studio Art**
The Bachelor of Fine Arts in Studio Art is the initial professional degree in the field in preparation for graduate study in studio art. 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 art major is then expected to achieve the highest possible level of technical skill in that concentration and its expressive possibilities.

**General**

**Upper-Division Course**

**485. Professional Practices in Studio Art. (3).** Research into and practical application of professional practices, business skills, and career planning specific to the discipline of studio art. Provides a foundation of practical information to assist the undergraduate studio art major in building a successful professional career. Not repeatable for credit.

**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.

**BFA in Studio Art—Ceramics**
The Bachelor of Fine Arts in Studio Art 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.

**Area** | **Hrs.**
--- | ---
Foundation Curriculum | 21
Art F. 136 & 137, Design I & II | 2
Art F. 145 & 146, Drawing I & II | 2
Art F. 189, 3-D Design | 2
Art F. 240, Life Drawing | 2
Studio elective | 6
Art History | 6
Art H. 124, Survey of Western Art: Modern | 3
Art H. 300+ | 3
Introductory Art | 21
Art S. 250, Introductory Oil Painting or Art S. 251, Introductory Watercolor Painting | 1
Art S. 260, Printmaking I | 1
Art S. 280, Sculpture | 1
Art S. 340, Life Drawing Studio* | 1
Art S. 340 or 345, Intermediate Drawing | 1
Art S. 362, Printmaking II or Art S. 364, Printmaking III | 1
Art S. 545, Advanced Drawing* | 1
Art Electives | 9
Courses which complement the Introductory Art courses and the Ceramics Concentration | 24
Ceramics Concentration | 24
Art S. 270, Basic Ceramics | 1
Art S. 272, Handbuilding | 1
Art S. 370, Intermediate Ceramics (take 3 times) | 1
Art S. 570, Advanced Ceramics (take 2 times) | 1
Art S. 572, Advanced Handbuilding | 1
Note: 40+ upper-division hours are required for graduation.

**Lower-Division Courses**

- **270. Basic Ceramics Studio. (3).** Experience in handbuilding, wheel throwing, glazing meth-
Lectures and research covering clays, glazes, kilns, and historical and contemporary pottery. Repeatable for credit.

272. Handbuilding with Clay. (3). Uses various handbuilding techniques in the context of the vessels, the figure, and architecture or 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.

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 S. 189 and Art S. 270, or departmental consent for nonmajors.

Upper-Division Courses

370. Intermediate Ceramics Studio. (3). Exposes students to new possibilities in throwing or handbuilding. Throwers confront problems of teapots, two-foot vases and planers; 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. To be taken twice; repeatable for credit. Prerequisites: completion of foundation program and Art S. 270.

372. Intermediate Handbuilding. (3). Handbuilding-forming methods and drying-firing 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). Studies 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. 270.

Courses for Graduate/Undergraduate Credit

570. Advanced Ceramics Studio. (1-3). 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. The study of glaze formulation and the color and crystalline effects of oxides on base glazes. Requires notebook, formulation records and laboratory work. Prerequisite: Art S. 575.

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

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 and crystalline effects of oxides on base glazes. Requires notebook, advanced formulation records and laboratory work. Prerequisite: Art S. 875.

878-879. Terminal Project—Ceramics. (1-5; 1-5).

BFA in Studio Art—Painting/Drawing

The Bachelor of Fine Arts in Studio Art 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

Foundation Curriculum

Art F. 136 & 137, Design I & II
Art F. 145 & 146, Drawing I & II
Art F. 189, 3-D Design
Art F. 240, Life Drawing
Studio elective

Art History

Art H. 124, Survey of Western Art: Modern
Art H. 300+

Introductory Art........................................ 21
Art S. 250, Introductory Oil Painting
Art S. 251, Introductory Watercolor Painting,
Art S. 260, Printmaking
Art S. 270, Basic Ceramics Studio
Art S. 272, Handbuilding
Art S. 280, Sculpture
Art S. 360, Life Drawing Studio
Art S. 362, Printmaking II or Art S. 364,
Printmaking III

Art Electives........................................... 9
Courses which complement the
Introductory Art courses and the
Painting/Drawing Concentration

Painting/Drawing Concentration................. 24
Art S. 345, Intermediate Drawing
Art S. 350, Painting (take 4 times)
Art S. 351, Intermediate Watercolor Studio
Art S. 354, Intermediate Painting Studio
Art S. 545, Advanced Drawing
Art S. 550, Advanced Painting
(take 2 times)

*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 art 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. (1-3). 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. (1-3). 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. Introductory Oil Painting. (3). Introduces oil and alkyd painting emphasizing studio practice, fundamental principles, and techniques.

251. Introductory Watercolor Painting. (3). Introduces transparent and opaque watercolor painting emphasizing studio practice, fundamental principles, and techniques.

252. Introductory Acrylic Painting. (3). Introduces acrylic painting emphasizing studio practice, fundamental principles, and techniques.

Upper-Division Courses

351. Intermediate Watercolor Studio. (3). Emphasizes individual development, personal interpretation, and creativity. Repeatable for credit. Prerequisite: completion of foundation program and Art S. 251, or departmental consent.

352. Decorative and Ornamental Painting and Design. (3). An overview of historical and contemporary decorative and ornamental art utilizing slide lecture, classroom demonstration, and studio activity to study techniques including trompe l'oeil, marbling, graining, faux finishes, stenciling, and ornamental methods for their adaptation to interior, exterior, and furniture decoration and design. Classroom projects can become part of a professional job portfolio. Repeatable for credit.

354. Intermediate Painting Studio. (3). Emphasizes individual development, personal interpretation, and creativity. Repeatable for credit. Prerequisite: completion of foundation program, Art S. 250, Art S. 251 or 252, or departmental consent.

Courses for Graduate/Undergraduate Credit

551. Advanced Watercolor Studio. (3). For the professionally oriented student. Emphasizes independent study. Repeatable for credit. Prerequisites: four semesters of Art S. 351 and interview with instructor.

552. Advanced Decorative and Ornamental Painting and Design. (3). Projects in decorative and ornamental painting and design developed and completed by the student with faculty supervision. Preparation for more independent work. A plan of study defining projects must be submitted and approved by the instructor. Prerequisite: Art S. 352 or instructor's consent.

553. Independent Study in Painting. (1-3). 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 prior to registration. Prerequisite: departmental consent.

554. Advanced Painting Studio. (1-3). For the professionally oriented student. Emphasizes independent study. Repeatable for credit. Prerequisites: four semesters of Art S. 354 and interview with instructor.

555. Terminal Project—Decorative and Ornamental Painting and Design. (3). Supervised independent study. A plan of study for a project in decorative and ornamental art must be submitted for faculty approval prior to registration. Repeatable for credit. Prerequisite: Art S. 552.

Courses for Graduate Students Only

850. Special Problems in Painting. (1-3). 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. Prerequisite: Art S. 352.

858-859. Terminal Project—Painting. (1-5; 1-5).

BFA in Studio Art—Printmaking

The Bachelor of Fine Arts in Studio Art with a concentration in printmaking offers a broad range of studio experiences in two primary printmaking disciplines, intaglio and lithography. Supplementing 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.

Area Hrs.

Foundation Curriculum .........................21

Art F. 136 & 137, Design I & II
Art F. 145 & 146, Drawing I & 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
Art H. 300+

Introductory Art ..................................21

Art S. 250, Introductory Oil Painting or
Art S. 251, Introductory Watercolor
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 345, Intermediate
Drawing
Art S. 354, Intermediate Painting
Studio*

Art Electives .........................................9

Courses which complement the introductory Art courses and the Printmaking Concentration

Printmaking Concentration .....................24

Art S. 362, Printmaking II
Art S. 364, Printmaking III*
Art S. 300+, printmaking elective
Art S. 545, Advanced Drawing*
Art S. 560, Advanced Printmaking Studio—Intaglio (6 credits)
or Art S. 561, Advanced Printmaking Studio—Lithography (6 credits)*

repeatable courses

Note: 40+ upper-division hours are required for graduation.

Lower-Division Courses

161. Printmaking for Non-Art Majors. (3). Involves basic intaglio methods, etching, aquatint, soft ground, and mixed media techniques, as well as linoleum or wood block techniques, embossment, and a simplified unit on papermaking.

260. Printmaking I. (3). An introduction to printmaking, exploratory work in intaglio, collagraph, woodcut, or relief techniques, and a simplified unit on papermaking.

Upper-Division Courses

362. Printmaking II. (1-3). Basic intaglio methods (etching, engraving, soft ground, aquatint, and mixed techniques). Second semester includes color printing in intaglio, collagraph, or mixed techniques. Repeatable for credit one semester. Prerequisite: Art S. 260.

364. Printmaking III—Lithography. (3). Introduces lithography printing from the stone in black and white. The second semester includes color printing in lithography and combined techniques. Repeatable for credit. Prerequisites: completion of foundation program and Art S. 260.

365. Basic Screenprinting and Papermaking I. (3). Part I introduces basic screenprint technology (stencil-block out) and resists, as well as basic photographic methods. Emphasizes multi-color printing. Second part involves basic papermaking methods (sheet forming and paper cast from a mold). Prerequisites: completion of foundation program and Art S. 260.

Courses for Graduate/Undergraduate Credit

560. Advanced Printmaking Studio—Intaglio. (1-3). Intaglio, collagraph, and mixed techniques. For students interested in professional printmaking, course offers specialization in color printing or black and white. Repeatable for credit. Prerequisites: Art S. 260, 262 and 364.
Art S. 280, Sculpture
Art S. 340, Life Drawing Studio*  
Art S. 340 or 345, Intermediate Drawing  
Art S. 362, Printmaking II or Art S. 364, Printmaking III
Art Electives .................................................. 9
Courses which complement the Introductory Art courses and the Sculpture Concentration
Sculpture Concentration........................................ 24
Art S. 380, Sculpture (take 2 times)
Art S. 381, Cast Sculpture
Art S. 545, Advanced Drawing*  
Art S. 580, Advanced Sculpture  
Art S. 300+, sculpture elective (take 2 times)  
*repeatable courses  
Note: 40+ upper-division hours are required for graduation.

Lower-Division Course

Art S. 251, Introductory Watercolor  
Art S. 250, Introductory Oil Painting  
Art S. 270, Basic Ceramics Studio 
Art S. 280, Sculpture
Art S. 290, Printmaking  
Art S. 340, Life Drawing Studio*  
Art S. 345, Intermediate Drawing  
Art S. 362, Printmaking II or Art S. 364, Printmaking III

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 art, 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 Art. 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

Foundation Curriculum.................................. 21
Art F. 136 & 137, Design I & II  
Art F. 145 & 146, Drawing I & II 
Art F. 189, 3-D Design  
Art F. 240, Life Drawing Studio elective
Art History................................................. 6
Art H. 124, Survey of Western Art 
Art: Modern
Art E. 514Q, Aesthetic Inquiry 
Introductory Art.......................................... 12
Art S. 270, Basic Ceramics Studio 
Art E. 302, Jewelry  
Art E. 313, Fiber Exploration Plus one of the following: 
Art S. 250, Introductory Oil Painting
Art S. 251, Introductory Watercolor Painting 
Art S. 260, Printmaking 
Art G. 330, Photography
Art Specialization........................................... 9 
Three courses from one of the following media: ceramics; painting/drawing; printmaking; sculpture; design—graphic, illustration, 3-D, multi-media; or art history

Art Education Concentration ............................. 18 
Art E. 311, Art Education - Elementary School 
Art 410, Art Education-Middle School/Jr. High 
Art 414, Art Education-High School
Art E. 419, Micro Computer
Art E. 510Q, Stimulating Creative Behavior
Art E. 515, Developing Visual Materials

Professional Education Requirements...32
Specified 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 (Eng. 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. Admissions to student teaching are determined early in the students’ program (see College of Education—Admission to Teacher Education Programs). Students must apply for student teaching by mid-term of the fall 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 criticism/evaluation. 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.


K-9, 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 C/NP 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: education major, upper-division eligibility.

311. Art Education Curriculum in the Elementary School (2). Studies 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. Explores on various kinds of looms weaving, braiding, and twisting techniques that result in a fabric or web. Explores simple dye techniques.

350. Art Workshop (1-3). Repeatable for credit. Area covered is determined at the time course is offered.

410. Art Education in the Middle School/ Junior High School (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 during the Fall semester preceding Spring semester student teaching. Prerequisite: Art E. 310, 311.

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 (3). A study in the philosophy, psychology, and artistic development of the senior high school student, emphasizing the content, objectives, methods, and evaluation of the senior high school art program. Students participate in a field experience in a senior high school. Prerequisite: Art E. 310 or equivalent.

419. Micro-Computer Applications to Art Education (1-3). A study of the curriculum and instructional uses of the Macintosh 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 Macintosh 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 C/NP only.

Courses for Graduate/Undergraduate Credit
510Q, Stimulating Creative Behavior (3). 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). 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. 311.

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). Emphasizes creative thinking in the educational program. Includes readings, observation and evaluative techniques in the development of concepts and materials for art understanding. Repeatable once for credit. Prerequisite: instructor’s consent.

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 advisor’s consent.

712. Development of Art Understanding in the Educational Program (3). Includes 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 in woven forms and other structural techniques using natural and man-made fibers. Repeatable once for credit. Prerequisite: instructor’s consent.
714. Aesthetics for the Classroom. (3). Focuses on applying the issues and theories of aesthetics to the K-12 classroom. Students participate in discussions and demonstrations of these theories through critical and reflective writing as well as curricular planning. Students consider aesthetic development and construct lessons to integrate strategies involving aesthetic concepts into their teaching.

715. Research Problems in Art Education. (3). Orientation to 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 Macintosh and other 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. Develops 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.

726. Art Workshop. (1-3). Repeatable for credit. Area to be covered is determined at the time 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

J. William Thomson, 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 humanistic 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 Dillerken 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 demonstrate their performance ability on a minimum of one instrument or in voice. After their initial registration, students have their proficiency judged by their major professor; thereafter, they must perform for a faculty jury each semester to determine their proficiency level and progress. Semester proficiency cards, on which progress is recorded, are maintained for each student.

All music majors must pass a piano proficiency examination. Entering students majoring in music whose background indicates that they are competent in 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 pre-
sent 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.

Ensembles* ........................................... 8-10
Electives (music or nonmusic courses) ....... 7
Recital attendance (four semesters of Mus. P. 050)
Senior Recital (Mus. C. 400) .................... 1
  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 Theory-Composition

  Area Hrs.
  Applied Music .................................. 20
  Chief performing 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.
  Specific Keyboard Program Requirements
  Piano Performance Emphasis
  Applied Piano .................................. 24
  Mus. P. 250 and 251, Applied Concerto ....... 4
  Mus. P. 107-407, Piano Repertoire .......... 6
  Mus. P. 580, Piano Pedagogy .............. 2
  Mus. C. 782 and 783, Piano Literature ..... 4
  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 ......................................... 14
  Piano Accompanying Emphasis
  Applied Piano .................................. 16
  Mus. P. 223, 224, 423, and 424, Applied Piano Accompanying .................. 12
  Mus. P. 121, 122, 221, 222, Ital., Eng., Fr., Germ. Diction ............. 4
  Mus. P. 107-407, Piano Repertoire ....... 4
  Mus. P. 580, Piano Pedagogy .............. 2
  Mus. C. 726, Voice Literature ............. 3
  Mus. C. 685, String Literature .......... 8
  Ensembles ...................................... 2
  (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
  Piano Pedagogy Emphasis
  Applied Piano .................................. 24
  Mus. P. 107-407, Piano Repertoire ....... 6
  Mus. P. 580, Piano Pedagogy .............. 2
  Mus. P. 581, Piano Teaching Materials ... 2
  Mus. C. 782 and 783, Piano Literature ... 4
  Mus. P. 790, Special Topics (designated) 4

*See BME degree requirements for specific recital requirements in those degree plans.

Graduation Requirements
Bachelor of Music Requirements
Students receiving the BM choose either a performing 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.

Ensembles* ........................................... 8-10
Electives (music or nonmusic courses) ....... 7
Recital attendance (four semesters of Mus. P. 050)
Senior Recital (Mus. C. 400) .................... 1

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 Theory-Composition

Area Hrs.
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, 641, 659, 660, 661, 671 and 672
History and Literature of Music ........... 12
Mus. C. 113Q, 334Q, 335Q, and 335Q
Conducting ....................................... 4
Mus. P. 217 or 218 and 651 or 691
Ensembles* ................................ 10
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 specific major below)
Second performing medium ............... 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 ........... 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)

Specific Keyboard Program Requirements
Piano Performance Emphasis
Applied Piano .................................. 24
Mus. P. 250 and 251, Applied Concerto ....... 4
Mus. P. 107-407, Piano Repertoire .......... 6
Mus. P. 580, Piano Pedagogy .............. 2
Mus. C. 782 and 783, Piano Literature ..... 4
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 ......................................... 14
Piano Accompanying Emphasis
Applied Piano .................................. 16
Mus. P. 223, 224, 423, and 424, Applied Piano Accompanying .................. 12
Mus. P. 121, 122, 221, 222, Ital., Eng., Fr., Germ. Diction ............. 4
Mus. P. 107-407, Piano Repertoire ....... 4
Mus. P. 580, Piano Pedagogy .............. 2
Mus. C. 726, Voice Literature ............. 3
Mus. C. 685, String Literature .......... 8
Ensembles ...................................... 2
(see specific major below)
Second performing medium ............... 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 ........... 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)

Specific Keyboard Program Requirements
Piano Performance Emphasis
Applied Piano .................................. 24
Mus. P. 250 and 251, Applied Concerto ....... 4
Mus. P. 107-407, Piano Repertoire .......... 6
Mus. P. 580, Piano Pedagogy .............. 2
Mus. C. 782 and 783, Piano Literature ..... 4
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)
BM in Performance—Vocal Emphasis

Area

Applied Music ........................................... 26
Voice ....................................................... 2
Piano (two semesters) ..................................... 2
Study in another instrument may be substituted if student meets piano proficiency requirement

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 .................................................... 2
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) ................. 10
Fren. 111-112, Germ. 111-112

BM with Elective Studies in Business

Area

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

BM with Elective Studies in Theatre

Area

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); 210 (3); 300 (3); 500 (3); 550 (3); 630 (3); 690 (3)

BM with Elective Studies in Journalism (Advertising/Public Relations Emphasis)

Area

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); 322 (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 101 or its equivalent and English 102, College English I and II, Comm. 111, Public Speaking, and Math 111, College Algebra; completion of prerequisites in educational psychology; foundations of music and music education methods; successful completion of the piano proficiency exam and all other music requirements (including senior recital); 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**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>29</td>
</tr>
<tr>
<td>CESP 334</td>
<td>2</td>
</tr>
<tr>
<td>CESP 433</td>
<td>3</td>
</tr>
<tr>
<td>CI 271</td>
<td>1</td>
</tr>
<tr>
<td>Mus. E. 272</td>
<td>1</td>
</tr>
<tr>
<td>CI 311</td>
<td>1</td>
</tr>
<tr>
<td>CI 312</td>
<td>1</td>
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<tr>
<td>CI 328</td>
<td>5</td>
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<tr>
<td>CI 427</td>
<td>2</td>
</tr>
<tr>
<td>CI 430</td>
<td>3</td>
</tr>
<tr>
<td>CI 451</td>
<td>4</td>
</tr>
<tr>
<td>CI 457</td>
<td>1</td>
</tr>
<tr>
<td>CI 469*</td>
<td>4</td>
</tr>
</tbody>
</table>

*These courses are taken during the student teaching semester.

**Additional Courses Required for Vocal (Keyboard) Emphasis**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>16</td>
</tr>
<tr>
<td>Vocal majors (voice)</td>
<td>14</td>
</tr>
<tr>
<td>Keyboard majors (piano)</td>
<td>2</td>
</tr>
<tr>
<td>Music Education</td>
<td>14</td>
</tr>
<tr>
<td>Ensembles</td>
<td>7</td>
</tr>
</tbody>
</table>

**Additional Courses Required for Instrumental Emphasis**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>16</td>
</tr>
<tr>
<td>Instrumental majors</td>
<td>14</td>
</tr>
<tr>
<td>(chief medium)</td>
<td></td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>Keyboard majors</td>
<td>14</td>
</tr>
<tr>
<td>(chief medium)</td>
<td></td>
</tr>
<tr>
<td>(second instrument)</td>
<td>2</td>
</tr>
<tr>
<td>Electric bass majors</td>
<td>10</td>
</tr>
<tr>
<td>(electic bass)</td>
<td></td>
</tr>
<tr>
<td>(string bass)</td>
<td>4</td>
</tr>
<tr>
<td>(piano)</td>
<td></td>
</tr>
</tbody>
</table>
| Students must be enrolled in applied music during the semester of their senior recital.  
General Music ............... 33-35  
Mus. C. 113Q, 127Q-129, 128-130, 227-229, 228-230, 334Q, 335Q, 521, 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, 307, and 407 required.

**Recital attendance**

Mus. E. 171 and 172; two semesters of Mus. P. 050  
Plus Mus. P. 400, Senior Recital  
Music Education ............ 18  
Mus. E. 204, 304, 404* and 611 ...... 10

**Additional Courses Required for Special Music Education Emphasis (Vocal or Instrumental)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied music</td>
<td>16</td>
</tr>
<tr>
<td>Vocal majors (voice)</td>
<td>14</td>
</tr>
<tr>
<td>Keyboard majors (piano)</td>
<td>2</td>
</tr>
<tr>
<td>Guitar recommended</td>
<td>2</td>
</tr>
</tbody>
</table>
| Students must be enrolled in applied music during the semester of their senior recital.  
General Music ............... 33  
Mus. C. 113Q, 127Q-129, 128-130, 227-229, 228-230, 334Q, 335Q, 521, 641 or 753 or 754, Mus. P. 217 or 218, 651 or 691.  
Stud ents who wish a Bachelor of Arts
Area H rs, College of Fine Arts as indicated in the
Group III
Fairmount College of Liberal Arts and tile
Education Requirements
Music Education Methods
Area H rs.
Recommended: one 600-level CI
exceptionalities course 3
Music Education Methods 17-25
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, 342, 611
Additional courses for piano
pedagogy majors: Mus. P. 580
(2 hrs) and 790 (4 hrs)
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 check sheets and to elect 50
music hours as specified in the following
areas and course listings.
Area H rs.
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 courses counted in
General Education requirement.
Group II
Music Theory 20
Mus. C. 127Q-129, 128-130, 227-
229, 228, 523, 561 or 661, 641
Group III
Conducting 2
Mus. P. 217 or 218
Group IV
Applied Music 6
Voice, piano, organ, guitar
or orchestral instrument
Group V
Ensembles 4
Select in consultation with advisor
Group VI
Electives from the areas of music
literature, music theory, music
applied, counterpoint, conducting,
orchestration, and ensembles
Group VII
Recital attendance
Four semesters, Mus. P. 050
Music Minor
A minor in music is available to any stu-
dent whose major field or area of
emphasis is outside the School of Music. A
music minor consists of 20 hours as indi-
cated: Mus. C. 113Q, 127Q, 128, 129, 130,
and 9 additional hours selected from
among the following: Mus. C. 160Q, 227,
228, 229, 230, 334Q, 335Q, 523, music
applied (4-hour maximum), and music
ensembles (4-hour maximum).
Music Education
Lower-Division Courses
171. Orientation to Music Education. (1).
Look at the concepts of comprehensive music
sianship and develop strategies for leading music
activities in a variety of scenarios. Learn observa-
tion techniques appropriate for viewing a wide
range of instrumental and vocal performances.
172. Introduction to Music Education. (1).
Demonstrate familiarity with the scope and
program of K-12 music education. Articulate a
current music education philosophy while
developing leadership skills for a variety of
music activities and teaching scenarios. Prereq-
usite: Mus. E. 171.
203. Fundamentals of Vocal Music for Sec-
ondary Schools. (3). The teaching of music
in the secondary school, consideration of objec-
tives and examination of materials. For stu-
dents primarily interested in teaching music in
secondary schools; includes observation in
public schools. Includes classroom guitar.
Prerequisite: music education major or instruc-
tor's consent. Grades 6-12.
204. Fundamentals of Instrumental Music for
Secondary Schools. (3). Techniques and mate-
rials for teaching instrumental music in junior
and senior high schools. Emphasizes instru-
mental overview, organization and administra-
tion, pedagogical practices, laboratory experi-
ences, guiding student behavior, evaluation, and
professional responsibilities. For students primar-
ily 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 Instru-
ments (Violin and Viola). (1). Procedures and
materials for class and private teaching.
Includes performance and fundamentals in
first position and theory and reading knowl-
edge of positions two through five. Includes
band and orchestra laboratory. Grades 4-12.
236. Methods of Teaching Orchestral Instru-
ments (Cello and String Bass). (1). Procedures
and materials for class and private teaching.
Includes fundamental techniques. Includes
knowledge of more difficult positions and spe-
cial techniques. Includes band and orchestra
laboratory. Grades 4-12.
237. Methods of Teaching Band and Orches-
tral 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, instruc-
tional materials, reed selection and adjust-
ment, instrument brands, and the development
of sufficient playing skills. Grades 4-12.
238. Methods of Teaching Band and Orches-
tral 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 develop-
ment of sufficient playing skills. Grades 4-12.
239. Methods of Teaching Band and Orches-
tral 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 Orches-
tral Instruments (Percussion). (1). Procedures
and materials for class and private instruction.
Includes application of snare drum fundamen-
tals and a study of basic techniques for all per-
cussion instruments. Grades 4-12.
241. String Rehearsal Methods. (1). String
rehearsal techniques and materials for grades 4
through 12. Required of majors on choral/key-
board program and choral/keyboard majors
on special music education program.
242. Wind and Percussion Rehearsal Meth-
ods. (1). Wind and percussion techniques and
materials for grades 4 through 12. Required of
majors on choral/board program and
choral/keyboard majors on special music edu-
cation program.
272. Introduction to Professional Education.
(1). Gives prospective teachers the opportu-
nity to consider seriously their suitability for a
career in education. Students begin to de-
velop skill observing educational situations and
settings which help them develop a teacher
perspective, seeing schools as prospective
workplaces and teachers as colleagues. Prereq-
usites: C or better in English I and II, Commu-
nication, and College Algebra; sophomore
standing, 2.670 GPA, in the 35th hour; and
concurrence in CI 271.
281. Cooperative Education. (1-8). A field
placement which integrates course work with
a planned and supervised professional expe-
rience 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 coordina-
tors. Students may follow one of two schedul-
ing patterns: parallel, enrolling concurrently
in a maximum 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 fol-
lowing semester; such students need not be
concurrently enrolled in any other course.
Pre-requisites: 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

303. Survey of Vocal Music for Elementary Schools. (3) An overview of activities in the elementary general music program. Includes a study of objectives for elementary classes and consideration of materials and methods. Includes autoharp, recorder techniques, and music theatre for primary schools. For students primarily interested in teaching music in the elementary schools. Prerequisite: Mus. E. 203. Grades K-8.

304. Survey of Instrumental Elementary School Music. (3) A survey of methods and materials in the elementary school instrumental program of instruction. For students primarily interested in teaching instrumental music in the elementary schools. Prerequisite: Mus. E. 204. Grades 4-8.

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 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 observation, demonstration-participation experiences, and/or media presentations. Prerequisites: Mus. E. 203 or 204 with instructor's consent. Grades K-12.

342. Survey of Choral Techniques and Literature. (2) 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. Prerequisite: Mus. P. 217 or 218. Grades 6-12.

351. Music Fundamentals for the Classroom Teacher. (2-3) 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 reading modules. To be taken during student teaching semester. Grades K-12.

404A. 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; also 309 for special music education majors. Includes content area reading modules. To be taken during student teaching semester. Grades 4-12.


Courses for Graduate/Undergraduate Credit

511. Jazz Pedagogy. (2) For both music education and music performance majors interested in teaching improvisation, jazz history and large and small jazz ensembles. Includes a review of current jazz methods and materials, rehearsal techniques for jazz ensembles, how to listen to jazz, lectures by visiting jazz performers and effective jazz programming. Prerequisite: completion of Mus. C. 228 or instructor's consent.

506. Music Methods for Early Childhood Education. (2-3) 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.

511. Music for Special Education. (3) Open to upper-division or graduate students and intended for the potential practicing music teacher, classroom teacher or special education teacher. Includes identification of dysfunctioning children and their problems and current theories and practices in special music education. Satisfies the requirement, effective September 1, 1981, that applicants for initial certification or renewal of secondary and/or special education 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.

568. 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 manuals 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 programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 781 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of coursework in addition to their course 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 satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NC only.

785. Instrumental Music Organization and Administration. (2) Problems of developing school instrumental music programs.

790. 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

821. Administering Elementary Music. (3) Investigates research and strategies in music education relating to communication, classroom management, current trends and teaching and learning styles. Includes teacher assessments and evaluation issues.

822. Advanced Techniques in Special Music Education. (3) For the special music education 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 functioning 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 special music education MME candidate only. Supervised teaching in special education classrooms. A companion course to Mus. E. 822; gives the MME special education 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.

§42. 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.

§44. Terminal Conducting Project. (2). Individually supervised project for those accepted for the conducting option on the instrumental or choral emphasis under the MME degree. Prerequisite: instructor and departmental consent.


§51. 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.

§52. Introduction to Bibliography and Research. (3). See course listing under musicology-composition area.

§54. Research Seminar in Music Education. (3). Continued application of techniques of research. Requires the completion of a major research project. May be selected as the MME terminal requirement for specified programs. Prerequisite: Mus. C 852.

§57. History and Philosophy of Music Education. (2). A study of historical trends and contemporary philosophies relevant to music education. Prerequisite: Mus. E 851.

§75. Thesis Research. (1-2).

§76. Thesis. (2).

Music Performance

Applied Music Private Study

112. Applied Music Instruction for Nonmajors. (2). Basic applied instruction for persons who are not active in a music degree program. May not be used to fulfill music degree requirements. Repeatable.

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 Classes

113P. Piano Class. Level 1. (1). Non-piano music majors. Class piano prepares the student to pass the piano proficiency exam. Required of all music majors. Repeatable for credit. Prerequisite: class placement interview.

114P. Piano Class. Level 2. (1). Non-piano music majors. Repeatable for credit. Prerequisite: class placement interview.

115P. Piano Class. Level 3. (3). Non-piano music majors. Repeatable for credit. Prerequisite: class placement interview.

116P. Piano Class. Level 4. (1). Non-piano music majors. Repeatable for credit. Prerequisite: class placement interview.

117F. Guitar Class. (2). Beginners. Repeatable.

117P. Piano Class. (1). Non-piano music majors. Prerequisite: class placement interview. Repeatable.

117W. Violin Class for Adult Beginners. (2). Beginning violin class: violin fundamentals, emphasizing tone and intonation development; basic techniques for reading (notes and rhythm). May not be applied to music major requirements. Repeatable for credit.

117Y. Popular Vocal Styles. (2). Class voice instruction for adults emphasizing basic vocal technique and how it can be applied for use in popular styles of singing, including vocal jazz, pop, music theatre, etc. Gives students an opportunity to explore techniques for developing their own voices and to practice singing in a supportive environment; includes information via lecture, demonstration, listening to recordings related to stylistic differences in the popular idiom. Intended for nonmusic majors; not applicable to music degree requirements. Repeatable.

General Performance

Noncredit Courses

050. Recital. (1). Recital attendance and performance. Laboratory observation of performance media, literature, and recital techniques. Election is required for BA and BM majors according to the requirements of the degree checklist at the time of enrollment. Repeatable.

080. 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. (1-3). Gives 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.


210-212. Ensembles. (1-11-1). (A) Orchestra; (B) Symphonic Wind Ensemble; (D) Gospel Ensemble; (F) A Cappella Choir; University Singers; Concert Chorale; (H) Banda Hispanica; (I) Piano Accompaniment; (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; (W) International Choir; (X) New Music Ensemble. Prerequisite: audition required. Repeatable for credit.

211E. Opera Lab. (1). Provides opportunities for students to perform staged arias, scenes, and one act operas. Students who audition for Opera Theatre but are not cast should enroll in Opera Lab. Those interested in stage management, directing, and backstage work may also enroll. Audition is required.

211K. Opera Theatre. (1). Provides the opportunity for students to gain performance experience as a chorus member in fully staged, high quality productions of a diverse repertory with orchestra accompaniment. Prerequisite: audition required. Repeatable for credit.

211U. Musical Theatre Performance. (1). Cross-listed as Dance 320 and Thea. 180E. An interdisciplinary practicum class for students cast in a musical theatre production. Admission is by audition. Gain rehearsal and performance experience in a Mainstage production with orchestra. Rehearsals are in the evenings for 6-10 weeks. Repeatable for credit.

212K. Opera Theatre. (2). Provides the opportunity for students to gain performance experience as a chorus member in fully staged, high quality productions of a diverse repertory with orchestra accompaniment. 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. Prerequisite: 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.


281. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors 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. 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.

Upper-Division Courses

300. Junior Recital. (1). Required for BM piano majors, performance or accompanying emphasis. Prerequisite: departmental consent.


330. Musical Theatre Workshop I. (2). Cross-listed as Dance 150L and Thea. 330. An interdisciplinary practicum class with opportunities for student performers to refine rehearsal and performance skills necessary to musical theatre. Students prepare songs and scenes and staging from the musical theatre repertory culminating in a workshop performance. Admission is by audition.

340. Vocal Coaching. (1). Covers diction and the appropriate dramatic, stylistic, and musical interpretation of songs and arias from opera and musical theater literature.

400. Senior Recital. (1). Prerequisite: departmental consent.


411E. Opera Lab. (1). See Mus. P. 211E.

411K. Opera Theatre. (1). See Mus. P. 211K.


412K. Opera Theatre. (2). See Mus. P. 212K.

414K. Opera Theatre. (2). Provides the opportunity for students to gain performance experience with a major role in fully staged, high quality productions of a diverse repertory with orchestra accompaniment. Prerequisite: audition required. Repeatable for credit.

415Y. Voice for Music Theater. (2). Basic repertoire and singing techniques with weekly master class devoted to music theater techniques and concepts. Not applicable to music degree requirements. Repeatable.


450-451. Accompanying Recital. (1-1). Required for BM piano majors, accompanying emphasis. Prerequisite: departmental consent.


Courses for Graduate/Undergraduate Credit

530. Musical Theatre Workshop II. (2). Cross-listed as Thea. 530. An interdisciplinary practicum class with opportunities for student performers to refine techniques in a variety of musical theatre genres, including operetta, book musicals, and rock musicals. Provides opportunities for student directors and choreographers to gain experience in their discipline with faculty guidance and supervision. Admission is by audition.

555. Senior Project. (1). Cross-listed as Thea. 555. An interdisciplinary course to showcase the talents of graduating seniors to professional producers, agents, and casting directors. Students develop and produce a variety of musical theatre genres, including operetta, book musicals, and rock musicals. Provides opportunities for student directors and choreographers to gain experience in their discipline with faculty guidance and supervision. Admission is by audition.

580. Piano Pedagogy. (2). Primarily concerned with the art and science of teaching. Includes observations 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). Baton 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.

127. Theory I Honors. (2). Fundamentals of music, melodic writing and analysis, elementary melodic formal structures (cadence, phrase, period), simple harmonic relationships, and fundamental pedagogical 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 content."

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 content." Prerequisite: Mus. C. 129.

160G. The Heritage of Western Music. (3). General education introductory course. Acquaints the nonmajor with the central tradition of Western art 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). General education further studies course. Open to all students, particularly those involved in alternative schedules. Helps students develop the capacity for critical music listening and an appreciation for all musical styles. Television course.

162G. World Music. (3). General education introductory course. A view of music as a global and cultural art form. For the general student to better understand the importance and significance of music in all world cultures.

165. The Blues: Art and Culture. (3). General education further studies course. Cross-listed as Anth. 165. The blues is a uniquely American musical form that has made an immense contribution to world popular culture. The history of the blues also reflects the history of Black America from the late 19th century to the present day. Focuses on major blues artists, both rural and urban, to trace the history and development of the blues as a folk art form that expresses both the joy and the despair of the people who created it.
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 content.” Prerequisite: Mus. C. 127.

228H. Theory IV Honors. (2). See Mus. C. 228. Prerequisite: Mus. C. 227 or 228H and departmental consent.

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 content.” 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 reading skills appropriate to the level of the student and to the subject content.” Prerequisite: Mus. C. 130.

245. Jazz Improvisation. (2). Melodic, harmonic and rhythmical creation emphasizing the relationship of scale patterns and seventh chords. Repeatable for credit. Prerequisites: Mus. C. 128 and 130 or instructor’s consent.

259 & 260. Applied Composition. (2-2). Individual study in fundamentals of musical composition emphasizing the development and expansion of music materials. May be taken as an elective. May be repeated as an elective by those not majoring in theory-composition. Prerequisites: Mus. C. 127Q or equivalent and instructor’s consent.

Upper-Division Courses

315. Music of the 20th Century. (2). An aesthetic approach to music of this century, its major composers, and stylistic and formal characteristics. Primarily for the nonmusic major who has musical interest and background.

320G. Movie Musicals. (3). Covers the unique development of the musical within the media genre of film. Traces historical development, emphasizing technical progress, music, cinematography, and the genre as a reflection of American life.

325. Periods of Music History. (3). General education further studies course. For nonmajors. Content changes from semester to semester. Focuses on topics within the Western Classical musical tradition, such as periods, styles, and places. Prerequisite: Mus. C. 160G.

334Q. History of Music I. (3). General education further studies course. A survey of the evolution of musical styles and practices in the Western world through ca. 1750. Includes lectures, reference readings, and the study of representative examples of music. Prerequisites: Mus. C. 113Q and 228 or instructor’s consent.

335Q. History of Music II. (3). General education further studies course. A survey of the evolution of musical styles and practices in the Western world from ca. 1750 to the present. Includes lectures, reference readings, and the study of representative examples of music. Prerequisites: Mus. C. 113Q and 228 or instructor’s consent.

345. Jazz Arranging. (2). Arranging for small and large jazz ensembles emphasizing current big band styles. Prerequisites: Mus. C. 228 and 230 or instructor’s consent.

346Q. Styles of Jazz. (3). General education further studies course. A survey of all eras in the evolution of the many styles in the jazz idiom from the end of the 19th century to the present. Open to majors and nonmajors.

400. Composition Recital. (1). Presentation for public performance of a selection of compositions representing large and small forms, totaling a minimum of 20 minutes performance times. Must be concurrently enrolled in Mus. C. 559/560 or 659/660. Prerequisite: departmental consent.

493G. American Popular Music. (3). General education further studies course. Focuses on music of the popular culture in this country from colonial times into the 20th century and representing a melding of social, political, artistic, and historical elements of many diverse cultures.

Courses for Graduate/Undergraduate Credit

510. Interrelated Arts. (3). Presents an aesthetic analysis of the fine arts: music, visual arts, drama, literature, and dance. Emphasizes style and commonality among the arts disciplines.

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.


561. 18th Century Counterpoint. (2). Contrapuntal devices of the 18th century as found in the works of J.S. Bach. Prerequisite: Mus. C. 228.


597-598. Organ Literature and Practice. (1-3). 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 improvisation. Required of all organ majors. Repeatable. Prerequisite: Mus. C. 228 or departmental consent.

616. Symphonic Literature. (3). General education further studies course. An advanced course in orchestral literature covering the development of the symphonic music from Baroque to the present day. Designed primarily for music majors who have already had Mus. C. 334Q and 335Q.

623. Opera Literature. (3). General education further studies course. 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. Ora1/orio 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.

645. Choral Arranging. (2). Scoring for women’s, men’s and mixed choruses. Includes performance and analysis of student’s arrangements in class. Prerequisites: Mus. C. 225 and 230.

660. Applied Composition. (2). Individual study in musical composition emphasizing writing for both small ensembles and large groups in larger forms. Repeatable. Prerequisite: 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.
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 253, Costuming for the Stage; and Theatre 345, Stage Lighting.

Dance

Major emphasis is placed on modern dance technique with strong supportive classes in ballet and jazz. Major course offerings include study in modern, ballet, and jazz techniques; tap; choreography; dance history; dance kinesiology; repertory; music for dance; lighting; and costume. Additional classes are offered in music theatre dance, mime, ballroom, country-western, and other special forms.

The Wichita State University Dance Ensemble (WSUDE), the resident faculty-student performance company, presents at least two fully produced concerts annually and acts to produce guest residencies with internationally recognized dance artists, lecture demonstrations for area schools, master classes, an annual undergraduate dance concert, informal showings, and senior choreography concerts. Membership in WSUDE is by audition only.

Any student who intends to pursue dance as a major should contact the director of dance early in their educational career for assignment to an academic advisor.

Graduation Requirements

Dance majors must complete two semesters of Dance 501, Modern Dance IV, and one semester of Dance 410, Ballet III, with a minimum grade of B. A minimum of 42 hours is required in technique with a least 24 hours in modern dance technique. Proficiency exams are available for those with a developed technical skill. Students are encouraged to take concurrent ballet and modern dance technique classes each semester they are enrolled. Contact the director of dance for consideration of exception.
ments for Graduation section of the Catalog. In addition, the following course requirements must be met.

Course
Dance 201, Modern Dance Technique I; Dance 301, 401, 501, Modern Dance II, III, IV. (Placement and advancement by audition and/or faculty consent only)..............24
Dance 210, 310, 410, Ballet I, II, III. (Placement and advancement by audition and/or faculty consent only)..................18
Dance 120, 220, Jazz I, II..................4
Dance 105, 205, 505, Choreography I, II, III..9
Dance 225Q, Survey of Dance History........3
Dance 130B, Tap I................................2
Dance 315, Music for Dance.................3
Dance 320, Performance....................3
Dance 415, Dance Kinesiology.............3
Thea. 253, Costuming for the Stage.........4
Thea 345, Stage Lighting....................4
Total...........................................78

In addition to the above required courses, a minimum of 6 hours should be selected from the following theatre, music, art, and dance courses with at least 3 hours in two disciplines:
Thea. 143G, The Art of the Theatre; 243Q, Acting I; 244, Stagecraft; 254, Stage Makeup; 623Q, Development of the Theatre I; or 624Q, Development of the Theatre II
Mus. C. 160G, The Heritage of Western Music; 315, Music of the 20th Century; or 346Q, Styles of Jazz
Art H. 122G, Survey of Western Art: Renaissance and Baroque; 124, Survey of Western Art: Modern; 525, 20th Century Art Before 1945; 526, Art Since 1945; or Art F. 136, Foundation Design I
Dance 130J Advanced Tap; 227 Mime, 230, Theatre Dance I; 330, Theatre Dance II; 335, Jazz III; 545, Methods of Teaching Dance; 605, Choreography for the Musical Theatre; 645, Practice in Teaching Dance

The remaining hours should be selected to fulfill General Education program requirements.

Dance Minor
A minor in dance consists of the following: 105, 120, 140, 201, 210, 225Q, 301, and 320.

Lower-Division Courses
105. Choreography I. (3). Focuses on the choreographic process. 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 semester of modern dance and equivalent to intermediate technical level. Concurrent enrollment in appropriate-level modern dance or ballet technique class required.

120. Jazz. (1-2). Introduces 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.

130B. Tap I. (2). Introduces the principles of tap dancing including rhythm, clarity of sound, syncopation, and weight shift.

130Q. Tap II. (1). Continuation of Dance 130B. An advanced intermediate-level course emphasizing appropriate technique of intermediate tap skills and the continued development of intricate rhythms, musicality, weight distribution, and variation of style. Prerequisite: Dance 130B and/or instructor's consent.


150. Dance Workshop. (1-4). Repeatable for credit.

150Q. Musical Theatre Workshop I. (2). Cross-listed as Mus. P. 330 and Thea. 330. An interdisciplinary practicum class with opportunities for student performers to refine rehearsal and performance skills necessary to musical theatre. Students prepare songs and scenes and staging from the musical theatre repertory culminating in a workshop performance. Admission by audition.

201. Modern Dance Technique I. (2-3). Introduces 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.

205. Choreography II. (3). Further work in improvisation and composition. Study of form in composition. Culminates in a performance of solo works, duets, and small groups for an invited audience. Prerequisites: Dance 105 and concurrent enrollment in appropriate-level modern dance or ballet technique class.

210. Ballet I. (2-3). Introduces basic technique, positions, basic steps, proper body alignment, classroom structure, and etiquette and ballet vocabulary. Repeatable for credit.

220. Jazz II. (1-2). Continuation of Dance 120 at intermediate level. Repeatable for credit. Prerequisite: Instructor's consent or by audition.

>225Q. Survey of Dance History. (3). General education Further studies course. Overview of dance history emphasizing the development of the western tradition in social, cultural and concert dance forms from ancient Greece to the present, the origins of classical ballet, dance in the Americas, the development of modern dance and current trends in "world dance."

227. Mime/Physical Theatre I. (2). An introductory course in crafting non-verbal theatre to create conceptual statements, short plays, and abstract movement art. Student experiences gesture, isolation, flexibility, strength, emotional expression, genuine acting, and fundamental mime theatre skills to see the range and possibilities in communicating non-verbally. Enhances both acting and dancing skills.

230. Musical Theatre Dance I. (2). Introduces various musical theatre dance styles from different historical periods including social dance styles from 1900s through 1980s. Includes the dance audition and how to prepare and market the dancer for the stage. Repeatable for credit. Prerequisite: Dance 120 and/or instructor's consent.

Upper-Division Courses
301. Modern Dance II. (2-4). Continuation of Dance 201 emphasizing movement phrases. Intermediate level. Repeatable for credit. Prerequisite: Instructor's consent or by audition.


320. Dance Performance. (1). Perform in Mid-America Dance Theatre, Senior and/or Choreography concerts, musical theatre, or outside performances approved by dance faculty. Prerequisite: audition. May be repeated for credit.

330. Musical Theatre Dance II. (2). Continuation of Dance 230 and further refinement of musical theatre dance styles. Emphasizes knowledge of past and present renowned Broadway choreographers. Integrates original choreography into course work as well as performance methods. Repeatable for credit. Prerequisite: Dance 230 and/or instructor's consent.

335. Jazz Dance III. (2). Continuation of Dance 220 at a higher level of technical skill. Includes advanced kinetic memory, flexibility, isolation, sophisticated syncopation, and reflex. Prerequisites: Dance 120, 220, and/or instructor's consent.

401. Modern Dance III. (3). Continuation of Dance 301. Upper intermediate level. Repeatable for credit. Prerequisite: Instructor's consent or by audition.

410. Ballet III. (3). Continuation of Dance 310. Upper intermediate level. Repeatable for credit. Prerequisite: Instructor's consent or by audition.
Dance Kinesiology. (3). Introduces principles of kinesiology for dance. Includes anatomy, physiology, and beginning concepts in the body therapies and movement analysis. Stressing structural and neuromuscular analysis of the human body as it responds to the demands of dance.

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 205 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.

605. Choreography for the Musical Theatre. (3). Introduces the process of choreography for the musical theatre from casting the chorus in a musical to staging a solo to choreographing an ensemble of 30 dancers/singers. Includes interpreting the score and script for dance, staging non-dancers, and other projects to develop the craft of choreography for the musical stage. Prerequisites: Dance 330 or instructor's consent.

645. Practice in Teaching Dance. (3). Actual placement in teaching situation with responsibility of teaching ballet, modern and/or jazz in private studios, elementary, high schools, YMCA or recreation centers. 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; Second Stage; Readers Theatre; and Summer Theatre, a semi-professional company whose members are chosen by audition only. The music theatre program is a collaborative one in which students participate in musicals presented as part of the Theatre Series and the Opera Series, as well as in other performances in theatre, dance, and music.

Graduation Requirements

All theatre majors must participate in some area of the production of all University theatre plays, after consultation with faculty and staff. Students may choose one of four options: a BFA in performing arts/theatre performance; a BFA in performing arts/design and technical theatre, a BA in theatre, and a BFA in music theatre. In addition to the general education requirements, candidates for the BFA in performing arts must meet the following requirements.

Theatre Performance Track

A minimum of 80 hours, including Theatre 143G, 180, 221Q, 222, 225, 230, 241, 243Q, 244, 253, 254, 272, 345, 359, 380, 444, 450, 451, 544, 546, 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.

Musical Theatre

The BFA in musical theatre requires a minimum of 92 hours in three disciplines: 28 credits in theatre, 30 in music, 26 in dance, and 8 in interdisciplinary courses. Theatre courses include: Theatre 165, 243Q, 254, 320, 542, 643, 651; any two of the following: Theatre 244, 253, 345; and one of the following: Theatre 222, 272, 375, 610. Dance courses include: Dance 120, 130B, 201, 210, 220, 230, 301, 310, 330; and at least 4 hours from the following: Dance 130J, 225Q, 335, 605. Music requirements include: Applied Music 232Y, 415Y, 432Y; Music Performance: 113P, 114P, 212F, 213F, 340; and Music Composition: 129, 130. Interdisciplinary courses include: Theatre 180E, 300, 380E, 530, 555, 630. In addition, musical theatre majors will be expected to complete the 42 general education credits including Theatre 260 as their Introduction to Fine Arts course and Theatre 623Q as a Fine Arts Further Studies course. Total credit needed for graduation is 134.

Bachelor of Arts in Theatre

A minimum of 42 hours in theatre, including the following required classes: Theatre 221Q, 230Q, 254, 359, 623Q, 624Q, 728, and 1 credit each of 180 and 380; 8 hours of Theatre 244, 253, and 345; and 12 hours of electives chosen from the remaining courses in the theatre curriculum, 6 of which must be upper-division.

Theatre Minor

A minor in theatre consists of the following required classes: Theatre 243Q, 244, 272, 359, 253, 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). General education introductory course. An introduction to the theatre as an art form emphasizing critical appreciation from the viewpoint of the audience.

165. Stage Combat. (1). Teaches the techniques of safe unarmed combat on the stage, including the safe execution of falls, rolls, punches, kicks, and the knap.

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, or properties; the design and execution of stage lighting or makeup; the organization and practice of theatre management; and performance. May be repeated for credit.

180E. Musical Theatre Performance. (1). Cross-listed as Dance 320 and Mus. P. 211U. An interdisciplinary practicum class for students cast in a musical theatre production. Admission is by audition. Gain rehearsal and performance experience in a Mainstage production with orchestra. Rehearsals are in the evenings for 6-10 weeks. Repeatable 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). General education further studies course. Cross-listed as Comm. 221Q. 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. 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.
254. Stage Makeup. (2). Study and practice of the basic application of stage makeup. Also includes character analysis, anatomy, materials, and special makeup techniques and problems.

260. History of Musical Theatre. (3). General education introductory course. A survey of the development of musical theatre in America from the late 1800s to the present day. Explores the collaboration of composers, directors, choreographers, and performers that make this a uniquely American art form.

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 a stage manager or an assistant stage manager for a theatre production. Prerequisite: sophomore standing.

Upper-Division Courses

300. Drafting. (3). The fundamentals of drafting for the theatre. Includes drafting equipment, geometry, lettering, symbols, drawings (orthographic, isometric, oblique, sectional) and standard drawing used in theatre, floor plans, sections, elevations, working drawings, perspective. Prerequisite: Thea. 244 and Art. F. 145.

320. Musical Theatre Analysis. (2). Enables the musical theatre major to analyze both script and general style of musical theatre that will enhance performance skills. Deals with dramatic structure in the musical, different musical styles, and performance practices and how to apply this awareness into characterization.


342. 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.

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. 245Q, 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. May be organized in the following areas: design and construction of scenery, costumes, or properties; the design and execution of stage lighting or makeup; the organization and practice of theatre management; and performance. May be repeated once for credit.


385. Theatre as a Mirror of Today's America. (3). General education issues and perspectives course. Explores how contemporary drama reflects the issues and perspectives of different cultures and groups within America, including African Americans, Asian Americans, Hispanic Americans, feminists, gays and lesbians.

430. Contemporary Theatre and Drama: Topics. (3). General education further studies course. Investigates the major developments and directions in theatre and drama since 1800. Prerequisites: junior standing (60 hours) or above.

451. Portfolio Review. (1). Senior level. Helps the technical theatre and design student prepare a portfolio for the professional theatre. Requires: one senior seminar and one senior studio course.

455. Senior Jury. (1). For the graduating student in the performance or the production major. Prerequisite: senior standing.

480. Theatre Internship. (3-15). Credits for credit. As arranged by the theatre and the student. May be repeated for credit. Prerequisites: senior standing.

490. Musical Theatre Workshop II. (2). Cross-listed as Mus. P. 530. An interdisciplinary practicum class with opportunities for student performers to refine techniques in a variety of musical theatre genres, including opera, musicals, and rock musicals. Provides opportunities for student directors and choreographers to gain experience in their discipline with faculty guidance and supervision. Admission by audition.

544. Advanced Stagecraft. (3). R; L arr. Explores advanced construction techniques for the fabrication of stage scenery and stage prop...
orities. 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 skill as a scenic artist. Prerequisite: Thea. 244.

555. Senior Project. (1). Cross-listed as Mus. P. 790E. An interdisciplinary course to showcase the talents of graduating seniors to professional producers, agents, and casting directors. Students develop and produce a variety show demonstrating their talents in singing, dancing, acting, directing, and choreography. For majors only. Prerequisite: instructor’s consent.

559. Directing II. (3). R: I arr. Staging and rehearsal techniques emphasizing the problems of the period and stylized play. Prerequisites: Thea. 389 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.

622. Academic Theatre Practicum. (2). The investigation and exploration of the theatrical act in the classroom setting 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). General education further studies course. 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). General education further studies course. 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.

630. Opera/Musical Theatre Audition. (1). Cross-listed as Mus. P. 790E. A practicum course which develops techniques and audition repertory singers will need to gain professional employment and/or successfully compete for placement in advanced training programs. Also covers the business skills necessary to a professional career, and brings students into contact with professional guest artists who can provide additional insight and contacts. Prerequisite: instructor’s consent.

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, 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 scenographic 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 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 characterization 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: I arr. Historical study 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.

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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 P. 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 directing, acting, scenery, and lighting; costume design and construction; or theatre management with a professional theatre company. Work is evaluated by graduate faculty. 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 I for laboratory. For example, 4R, 2L means four hours of lecture.
College of Health Professions

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The College of Health Professions was established in 1970. Programs of study are offered in dental hygiene, health services organization and policy, medical technology, nursing, physical therapist assistant, physical therapy, physician assistant, and public health. The primary emphasis of the college’s health professions 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 professions 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 professions 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 Commission on Dental Accreditation of the American Dental Association, the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, National League for Nursing, Kansas State Board of Nursing, Council on Education for Public Health, Kansas board of Emergency Medical Services, the Commission on Accreditation of Allied Health Education Programs, and the National Accrediting Agency for Clinical Laboratory Sciences.

Licensing

Many state and national licensing and governing organizations will not grant a license, certification, registration, or other similar document to practice one’s chosen profession if one has been convicted of a felony, and in some cases a misdemeanor. Prospective applicants are encouraged to consult with one’s chosen professional governing or licensing organization for more detailed information before applying.

Essential Functions/Technical Standards

Essential functions/technical standards define the attributes that are considered necessary for students to possess in order to complete their education and training, and subsequently enter clinical practice. These essential functions/technical standards are determined to be prerequisites for entrance to, continuation in, and graduation from a student’s chosen discipline in the WSU College of Health Professions.

Students must possess aptitude, ability, and skills in five areas: observation; communication; sensory and motor coordination and function; conceptualization, integration, and quantification; and behavioral and social skills, ability, and aptitude. The essential functions/technical standards described by a student’s chosen discipline are critically important to the student and must be autonomously performed by the student. It should be understood that these are essential function/technical standards for minimum competence in a student’s discipline. Contact specific programs for detailed essential functions/technical standards. Reasonable accommodation of disability will be provided after the student notifies the department of the disability and the disability has been documented by appropriate professionals.

Degrees Offered

Undergraduate

Of the programs offered at the undergraduate level, four lead to bachelor’s degrees—health services organization and policy, medical technology, nursing, and physician assistant.

In addition, the Associate of Science is awarded in dental hygiene and physical therapist assistant. Students in the Emergency Medical Training (EMT) program receive a certificate of completion. A training program for Mobile Intensive Care Technicians (MIC) or paramedics is also offered.

Graduate

Three programs lead to the master’s degree—public health, nursing, and physical therapy. Admission to the Master of Public Health (MPH) program 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- or full-time study. Specializations offered are clinical nurse specialist in acute care, pediatrics, psychiatric/mental health nursing, and women’s health; nurse practitioner in acute care, family, pediatrics, and neonatal; and the MSN in administration or a dual degree, MSN and Master of Business Administration. Role development in education, informatics, and administration 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, Cr, or C or better in program courses required for the major and any other courses so designated by the program. In courses which combine theory and clinical practice, students must receive an S, Cr, 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 Admis-
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 2.000 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 advisor 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 2.000. 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/professional program advisor prior to submission of the petition. Petitions may or may not be approved by the body to whom the petition is 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.)

Exception to these requirements may be granted to nonmajors by the chairperson/director of the program offering the course with the approval of the College of Health Professions Admissions Exceptions Committee and the dean.

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 advisors 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 advisor.

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 requirements.

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).

Degree Requirements and Course Listings

School of Health Sciences

The School of Health Sciences offers programs leading to the Bachelor of Science in Health Services Organization and Policy, the Bachelor of Science-Medical Technology, and the Bachelor of Science-Physician Assistant.

In addition, the Associate of Science is awarded in dental hygiene and physical therapist assistant. The school also offers a certificate in basic Emergency Medical Training (EMT) and a program for the
training of Mobile Intensive Care Technicians (MIC) or paramedics.

The School of Health Sciences offers the Master of Public Health and Master of Physical Therapy degrees. For more information about the master's degree programs, refer to the WSU Graduate Bulletin.

Specific requirements for each degree are described under the appropriate listing below.

Dental Hygiene

Associate of Science

The associate degree program in dental hygiene provides students with 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. The Wichita State University program is accredited by the American Dental Association's 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 advisor.

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 Department. Acceptance into the College of Health Professions does not guarantee admission into the dental hygiene program. Persons interested in the dental hygiene program should direct their inquiries to the Chairperson, Dental Hygiene Department, 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; Engl. 101, College English I; Psy. 111Q, General Psychology; Biol. 220Q, Introduction to Microbiology; and PHS 331Q, Principles of Dietetics and Nutrition
2. Maintain a minimum grade point average of 2.500 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.

Course
Prerequisite courses for admission to the dental hygiene program:
Biol. 223, Human Anatomy and Physiology
Chem. 103Q, General Chemistry
Engl. 101, College English I
Psy. 111Q, General Psychology
Biol. 220Q, Introduction to Microbiology
PHS 331Q, Principles of Dietetics and Nutrition

Plus the following:
Comm. 111, Public Speaking
Soc. 111Q, Introduction to Sociology
DH 101, Preclinical Dental Hygiene
DH 104, Clinical Radiology
DH 201, Dental Hygiene Concepts
DH 202, Clinical Dental Hygiene I
DH 206, General and Oral Pathology
DH 290, Oral Anatomy
DH 295, Oral Histology and Embryology
DH 301, Dental Materials
DH 302, Clinical Dental Hygiene II
DH 303, Dental Hygiene Concepts II
DH 304, Dental Hygiene Concepts III
DH 314, Introduction to Periodontics
DH 315, Advanced Periodontics
DH 307, Ethics and Jurisprudence
DH 310, Community Dental Hygiene
DH 316, Pain Management
DH 323, Clinical Dental Hygiene III
DH 324, Clinical Dental Hygiene IV
DH 409, Introduction to Research
for the Health Professions
PHS 301, Pharmacology
PHS 315, Head and Neck Anatomy

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 Department, Wichita State University, Wichita, Kansas 67260-0144.

Lower-Division Courses

101. Preclinical Dental Hygiene. (5). 3R; 7L
Fall semester only. A presentation of the basic philosophy of dentistry and dental hygiene. Considers measures that can be employed to prevent oral disease and promote dental health. Gives laboratory instruction in instrumentation for removal of deposits from the teeth. Prerequisite: program consent.

104. Clinical Radiology. (4). 3R; 2L
Prerequisite: Consent; Fall semester only. Presents the theory and practice of exposing, processing, and mounting X-ray films. Uses laboratory periods to gain proficiency in X-ray techniques. Stresses care of the equipment. Prerequisite: program consent.

201. Dental Hygiene Concepts I. (3). Spring semester only. Prepares dental hygiene students to assess, plan, implement, and evaluate the clinical care of patients. Emphasizes oral health promotion, dental hygiene diagnosis, patient motivation, and procedures for controlling plaque. Provides the tools to enable students to analyze individual patient needs and design appropriate professional and home care regimens. Prerequisite: departmental consent.

202. Clinical Dental Hygiene I. (3). 12L
Prerequisite: Consent; Spring semester only. Emphasizes providing patient care in a clinical setting and nutritional counseling. Stresses basic instrument techniques as well as the prevention of dental disease. Develops patient evaluation and treatment planning skills. Prerequisite: program consent.

206. General and Oral Pathology. (3). Spring semester only. Surveys general pathology of tissues and organs of human anatomy. Discusses on dental pathology of the teeth, dental pulp, and oral tissues. Considers the signs, symptoms, and manifestations of oral lesions through lectures and visual aids. Prerequisite: program consent.

281. Cooperative Education Field Study. (1-6)
Provides students 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.

290. Oral Anatomy. (1). 1R; 5L
Studies tooth morphology, arrangement, function, and characteristics. Emphasizes the role of tooth morphology as it influences the practice of dental hygiene. Prerequisite: departmental consent.
295. Oral Histology and Embryology. (2). Studies the developmental and microscopic anatomy of the oral cavity including hard and soft tissues. Prerequisite: departmental consent.

Upper-Division Courses

301. Dental Materials. (2). 1R; 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 profession 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. Prerequisite: 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.

307. Ethics and Jurisprudence. (2). Spring semester only. Surveys 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. Prerequisite: program consent.

310. Community Dental Hygiene. (3). Covers dental public health and community dental hygiene, focusing on education and prevention. Covers the professional philosophy and foundations of dental health education in a community health context, as well as in-depth study of certain aspects of dental public health such as fluoridation, epidemiology, and program development. Students develop dental hygiene education materials and give presentations in the community.

314. Introduction to Periodontics. (2). Spring semester only. Lecture and visual aid presentation of the etiology and classification of periodontal disease. Studies the treatment of the periodontally involved patient emphasizing appropriate treatment planning for specific periodontal conditions. Prerequisite: program consent.

315. Advanced Periodontics. (1). A continuation of DH 314. Discusses supplemental diagnostic methods of assessment of periodontal disease; treatment of unusual periodontal diseases including HIV periodontitis; adjunctive periodontal therapies including antibiotics and antimicrobial agents; implant maintenance and surgical therapies. Emphasizes the evaluation of periodontal case studies resulting in comprehensive treatment planning. Prerequisite: DH 314.

316. Pain Management. (2). 1R; 2L. Fall semester only. Enhances 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. Emphasizes a thorough understanding of the pharmacology of dental drugs and their interaction with the client's current conditions and medications. Prerequisites: PHS 301 and 315.

322. Clinical Dental Hygiene III. (3). 1R; 2L. 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 322. Prerequisite: program consent.

346. Clinical Skills Update. (1-3). Provides 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. Emphasizes identification of clinical skill levels, development of remediation schedule, and self-evaluation skills. Student negotiates with dental hygiene program as to the hours of lecture and clinical practice needed to reach student's goals. Graded CR/NC. 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. Emphasizes 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 evaluating innovation, business administration and finance, operations, motivation, leadership, conflict, and communication. Prerequisite: program consent.

409. Introduction to Research for the Health Professions. (3). An introduction to the scope, format, and use of research in the health professions. Develops the ability to be a critical consumer of professional literature and the initiator of research projects. Prerequisite: program consent.

420. Educational Methodology in Dental Hygiene. (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.

425. Advanced Periodontics. (3). An in-depth study of advanced periodontal, diagnostic, and treatment modalities with application to the clinical setting utilizing evidence-based patient specific protocols. Expands student's ability in assessment, diagnostic, and treatment planning skills. Prerequisite: DH 314 and 315 or equivalent.

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. Additional opportunities are available for instruction in the clinical/laboratory setting. Prerequisite: program consent.

452. Community Dental Health Management. (3). Focuses on the oral health care delivery system and the role of the dental hygienist in managing oral health care. Emphasizes community and dental public health settings and population groups underserved by the current private practice setting. Prerequisite: DH 310 or equivalent.

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 Projects in Dental Hygiene. (1-3). Individual study of selected topics, didactic and/or clinical, to enhance the student's knowledge base and competencies in clinical or community dental hygiene practice.

465. Research in Dental Hygiene. (3). A practical approach to the application and acquisition of basic research techniques as related to community dental public health or clinical dental hygiene. Includes the student and identification of research problems, review of related literature, development of research hypotheses, and research methodology. Prerequisite: DH 462.

468. Field Internship. (3). The research proposal or community dental health project developed in DH 465 is implemented. Student collects data concerning a special problem in community dental health or clinical dental hygiene, undertakes data analysis, and draws conclusions relative to the stated hypothesis. Prerequisite: DH 465.

470. Issues in Dental Hygiene. (3). Analysis of various professional issues in clinical or community dental hygiene focusing on issues ranging from concerns within the local practice setting to national policy issues. Examines theories and applications uniquely suited to the dental health care delivery system.

Health Professions-General

Lower-Division Courses

101. An Introduction to the University. (3). Assists students in acquiring the academic and life skills essential to become a successful college student. Provides information, resources,
and support to promote opportunities for success. Introduces and utilizes resources within the University and the community. Recommended for all degree-bound students enrolling WSU for the first time.

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 129 hours, includes 72 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: Wesley Medical Center, Via-Christi-St. Francis Campus, Via-Christi-St. Joseph Campus, the Wichita Clinic, and the Veterans Administration Medical Center, Wichita; Hutchinson Hospital Corporation, Hutchinson; Hertzler Clinic and Columbia-Halstead, Halstead; Central Kansas Medical Center, Great Bend; Asbury-Salina Regional Medical Center, Salina; and St. Catherine Hospital, Garden City; and Stormont-Vail Hospital, Colmery-O’Neil Veterans Hospital, and St. Francis Medical Center, Topeka. Upon successful completion of the program, students are granted the Bachelor of Science in medical technology and are eligible to sit for the national certification examinations.

Preprofessional Curriculum

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<th>Course</th>
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<tr>
<td>Basic Skills</td>
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<tr>
<td>Eng. 101 and 102, College English I and II</td>
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<tr>
<td>Comm. 111, Public Speaking</td>
<td>3</td>
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<tr>
<td>Math. 111, College Algebra</td>
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<tr>
<td>Fine Arts and Humanities</td>
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Professional Curriculum

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<tr>
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<tr>
<td>Med. T. 406, Foundations of Laboratory Practice</td>
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<tr>
<td>Med. T. 450 and 451, Clinical Chemistry I and lab</td>
<td>5</td>
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<tr>
<td>Med. T. 452, Analysis of Body Fluids</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 456 and 457, Clinical Chemistry II and lab</td>
<td>4</td>
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<tr>
<td>Med. T. 459, Applied Clinical Chemistry</td>
<td>3</td>
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<tr>
<td>Med. T. 460 and 461, Hematology I and lab</td>
<td>4</td>
</tr>
<tr>
<td>Med. T. 466 and 467, Hematology II and lab</td>
<td>4</td>
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<tr>
<td>Med. T. 469, Applied Hematology</td>
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<tr>
<td>Med. T. 470 and 471, Immunohematology I and lab</td>
<td>4</td>
</tr>
<tr>
<td>Med. T. 476 and 477, Immunohematology II and lab</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 479, Applied Immunohematology</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 486, Clinical Laboratory Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 489, Applied Clinical Techniques</td>
<td>2</td>
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<tr>
<td>Med. T. 490 and 491, Clinical Microbiology I and lab</td>
<td>4</td>
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<tr>
<td>Med. T. 494, Special Topics in Clinical Microbiology</td>
<td>3</td>
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<tr>
<td>Med. T. 496 and 497, Clinical Microbiology II and lab</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 498, Applied Clinical Microbiology</td>
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MLT to BSMT Progression
Graduates of a NAACLS-accredited MLT-AD program with documentation of a passing score on a national certification exam and who have met other admissions requirements for the Department of Medical Technology program should contact the department office for information concerning degree completion. Other MLT graduates who do not meet the above criteria should contact the department chairperson.

Lower-Division Courses

160Q, Introduction to the Clinical Laboratory Sciences. (Q) 1R, 2L. 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. Suitable for majors to explore career selection and non-majors who come in contact with clinical laboratories either as a health professional or as a consumer.

281. Cooperative Education. (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 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. (1). 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. Clinical Laboratory Management/Education. (3). 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). 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 and care 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.

411A. Special Topics in Clinical Chemistry. (1). Review of current quality control procedures, biological variables, interactions, and factors affecting test results. Prerequisite: BSMT or equivalent and MT/CLS certification.

411B. Special Topics in Hematology. (1). Reviews RBC, WBC, platelet morphology and cell differentiation, along with a summary of the laboratory features associated with various anemias and leukemias. Prerequisite: BSMT or equivalent and MT/CLS certification.

411C. Special Topics in Immunohematology. (1). Generalist training in immunohematology. Through lecture, discussion and demonstration, technologist explores transfusion products and diagnostic services in a modern blood bank. Prerequisite: BSMT or equivalent and MT/CLS certification.

411D. Special Topics in Microbiology I. (1). Reviews gram stain and morphology, the new classification of organisms, rapid identification methods, and issues of antimicrobial resistance. Gram positive cocci, gram negative cocci, gram positive bacilli, enterobacteraceae, nonfermenters, anaerobes, mycobacteria, and miscellaneous organisms. Prerequisite: BSMT or equivalent and MT/CLS certification.

411E. Special Topics in Microbiology II. (1). Reviews virology, mycology, parasitology, and morphological characteristics used in the identification of organisms. Focuses on laboratory methods and interpretation used in the clinical laboratory. Prerequisite: BSMT or equivalent and MT/CLS certification.

411F. Special Topics in Urinalysis/Hemostasis. (1). Urinalysis segment reviews current quality assurance requirements, urinary sediment, and correlation of physical, chemical, microscopic tests with clinical significance. In hemostasis, reviews coagulation abnormalities using a case study approach. Emphasizes the laboratory tests used in diagnosing various coagulopathies. Prerequisite: BSMT or equivalent and MT/CLS certification.

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. 531 and Biol. 223.

451. Clinical Chemistry I Laboratory. (1). A laboratory course emphasizing the theory of the procedures and techniques used for colorimetric, spectrophotometric, and ultraviolet analysis of serum plasma and other body fluids for clinically significant substances.

452. Analysis of Body Fluids. (3). 2R; 3L. 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. (1). 3L. 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/NC only.

460. Hematology I. (3). 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. (1). 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.

466. Hematology IL. (3). Emphasizes the clinical significance of laboratory data and its correlation with pathologic conditions. 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. 460 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. 462, 467, and program consent. Offered Cr/NC 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 immunohematology 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 and program consent.

471. Immunohematology I Laboratory. (1). 3L. A laboratory course in techniques relevant to performance of a blood banking technologist in a donor or transfusion service. Methodology 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.

476. 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 workups, Rh immune globulin tests, and hemolytic anemia workups. Prerequisite: Med. T. 470 or instructor's consent.

477. Immunohematology II Laboratory. (1). 3L. A laboratory course in techniques relevant...
to resolution of medical-legal cases, antibody identification, and problems encountered in blood typing, compatibility testing, hemotherapy, hemolytic disease of the newborn, Rh immunoglobulin, and hemolytic anemia. Prerequisite: Med. T. 476 or concurrent enrollment or instructor's consent.

479. Applied Immunohematology. (3). Application of the theory and technical skill of immunohematology in a clinical laboratory with experiences in prenatal testing, antibody identification, direct antiglobulin evaluation, provision of safe blood or blood components for transfusion, and resolution of discrepancies encountered in performing any of the procedures. Offered Cr/NCr only. Prerequisites: Med. T. 467, 477, and program consent.


486. Clinical Laboratory Instrumentation. (3). Discussion and application of the principles, concepts, and techniques of clinical laboratory instrumentation such as atomic absorption, flame emission, spectrophotometry, nephelometry, fluorometry, chromatography, electrophoresis, densitometry, and mass spectrometry. Also covers automation in clinical chemistry, microbiology, hematology, immunology, and immunohematology. Prerequisites: Med. T. 406, 450, 451, or instructor's consent.

489. 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.

490. Clinical Microbiology I. (3). Basic theory covering (a) procedures for specimen processing in the clinical laboratory; (b) normal flora; (c) morphological, cultural, and serologic characteristics of common pathogenic bacteria; and (d) basic theory in antimicrobial susceptibility testing techniques. Prerequisites: Biol. 330 and concurrent enrollment in Med. T. 491.


494. Special Topics in Clinical Microbiology. (3). 3R, 3L. The study of the medically important fungi and parasites emphasizing their identification in the clinical laboratory. Discusses life cycles and their relation to the infection process and the epidemiology of these organisms. Prerequisites: Biol. 330 and program consent.

496. Clinical Microbiology II. (3). Advanced theory, procedures, and rationale for the isolation and identification of the nonfermenters, the anaerobic and unusual aerobic organisms. Discusses disease processes and identification of the acid-fast bacteria. Introduces advanced antimicrobial susceptibility testing techniques. Prerequisites: Med. T. 490, 491, 497, or concurrent enrollment.


498. 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 in medical technology. Prerequisites: Biol. 223 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 of evaluation of technology and clinical application. Prerequisites: Med. T. 459, 469, 479, and 498, or equivalent, PHS 105 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, pathological 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 pathological changes that can occur in various pathophysiological states. Prerequisites: PHS 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 PHS 701 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 immunohematology. Students are responsible for assigned topics, using current journal articles as resource material. Prerequisite: program consent.

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.

Physical Therapist Assistant Associate of Science

Physical therapist 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 documenting the patient's responses.

The Commission on Accreditation of the American Physical Therapy Association accredits physical therapist assistant programs. Wichita State received full accreditation in May 1996.

Upon completion of the professional program, students receive the Associate of Science (AS) in physical therapist assistant and are eligible to take the state board examination for certification in the state of Kansas.

Admission Requirements

Admission to the program requires that the student:

1. Have a minimum cumulative grade point average of 2.500 and a 2.500 GPA in math and science prerequisite courses.

2. Show evidence of completing the following:

   Course Hrs

   Mathematics and Science

   Biology and laboratory or prerequisite to Anatomy ........................................ 4-5
Therapy for complete course description sequentially. Professional course work students per year.

Course and clinical courses must be taken The professional curriculum takes

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<tr>
<th>Course</th>
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<tr>
<td>PHS 400, Introduction to Pathophysiology</td>
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<tr>
<td>PTA 200, PTA Procedures I</td>
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<td>PTA 205, PTA Procedures II</td>
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<td>PTA 210, PTA Procedures III</td>
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<td>PTA 215, PTA Procedures IV</td>
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<td>PTA 230, PTA Clinical II</td>
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<td>PTA 235, PTA Clinical III</td>
<td>6</td>
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<tr>
<td>PTA 240, Independent Study</td>
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</table>

Professional Curriculum

The professional curriculum takes 14 months. All physical therapy procedure and clinical courses must be taken sequentially. Professional course work taught in the classroom will be offered during evening hours. Clinical course work is a full-time activity (eight hours per day for two-, four-, or six-week periods, 8 a.m. - 5 p.m.).

Course

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Contact the Wichita State University Department of Physical Therapy for additional information.

Application packets are available in October—and are accepted in February—for consideration for the class starting the following June. The program accepts 24 students per year.

Lower-Division Courses

200. PTA Procedures I (4). Features theory and skill development for basic physical therapy skills. Emphasizes range of motion, aseptic technique, position, bed positioning, massage, goniometric measurements, manual muscle testing, bandaging, wheelchair, architectural barriers, ambulation, safety, and vital signs. Includes psychosocial aspects of patient care and a self-directed study of medical terminology. All skills are reinforced and practiced in supervised scheduled laboratories. Discusses basic instruction in SOAP format note writing. Prerequisite: admission to PTA program.

205. PTA Procedures II (4). Emphasizes the theory and practical application of physical agents utilized in physical therapy. Covers instruction in modalities such as therapeutic heat and cold, phototherapy, hydrotherapy, electrotherapy, pneumotherapy, and traction. Includes an introduction to therapeutic exercise and gait. Reinforces all skills through combined application during supervised laboratory sessions. Prerequisite: PTA 200.

210. PTA Procedures III (4). Emphasizes therapeutic exercise, orthotics, prosthetics, and rehabilitation programs for various patient populations including amputees, spinal cord and spinal disorders, stroke, pediatric, neurological, orthopedic, and cardiopulmonary conditions. Prerequisite: PTA 200.

215. PTA Procedures IV (4). Emphasizes therapeutic exercise and physical therapy treatment programs for various patient populations including arthritis, burn, cancer, sports medicine, cardiopulmonary, geriatric, industrial medicine, and AIDS. Summarizes psychological, sexual, and vocational aspects of patient care as related to clinical conditions. Prerequisite: PTA 210.

220. PTA Procedures V (3). Emphasizes professional aspects of the physical therapist assistant, including topics such as reimbursement, legislation, continuing education, code of ethics, professional relations, research, employment, and current developments in the field. Broadens students' understanding of professional responsibility and motivates them toward personal involvement, and continuing competence in the physical therapy profession. Includes a special topics section covering TMJ dysfunction, basic pharmacology, and orthopedic radiography. Prerequisite: PTA 210.

225. PTA Clinical I (2). Involves observation of various types of patients in local clinical settings with some practicum of skills learned in Procedures I. Emphasizes ongoing communication among the clinical therapist, patient, and academic coordinator. Gives opportunities to observe and work with a variety of patients in a supervised capacity and to begin developing competence as a medical team member. Prerequisite: admission to PTA program.

230. PTA Clinical II (4). A practicum of skills learned in Procedures I to III. Opportunities to be placed in a diversity of health care settings within and outside the city and to practice the application of all skills in a directly supervised manner. Prerequisite: PTA 225.

235. PTA Clinical III (6). Allows the student to be placed in health care facilities across the United States. Opportunities to practice application of all skills with indirect supervision on a variety of patients. Prerequisite: PTA 230.

240. Independent Study (1). In consultation with selected faculty member, student selects for intensive study a specific problem or area of concern related to physical therapy, allowing student to focus on specific subject matter of interest to himself or herself and to collect and investigate materials related to that subject. Student develops an area or topic of expertise by exploring and compiling information. Prerequisite: PTA 210.

Master of Physical Therapy

The program prepares individuals to enter beginning practice as a physical therapist. The graduates are prepared to evaluate neuromuscular, musculoskeletal, sensorimotor, and related functions to determine the degree of muscle strength, motor development, motion, respiratory ventilation, or peripheral circulatory efficiency of individuals. Following referrals from physicians, podiatrists, or dentists, the physical therapist plans and implements appropriate treatment programs for their clients. Graduates are prepared to work in preventive health care as well as rehabilitative care. The program requires full-time study for a period of 26 consecutive months. Students enter the program in the summer semester only.

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 the last 60 hours of graded undergraduate courses, in prerequisite courses, and in all 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—eight to 10 semester hours with laboratory
   - College Chemistry—two semesters with laboratory
College Physics—two semesters with laboratory
English Composition—two semesters
Exercise Physiology—one semester
Computers—one semester computer applications course or the equivalent
Speech—one semester
Mathematics—college trigonometry or equivalent
Statistics—one semester
Social Sciences—psychology, sociology, plus four more courses in any social science area
Humanities—ethics, plus four more courses in any humanities area

4. Show evidence of 20 hours of observation or work in one or more physical therapy settings.

To be reviewed for admission, applicants should do the following:
1. Seek an application packet from the Department of Physical Therapy.
2. Submit the designated Application for Admission and supporting transcripts to the Graduate School.
3. Submit the designated Physical Therapy Application, along with three references by the published deadlines.

Applications will be accepted for review only if they are postmarked in the last two weeks in January. Applications received at any other time will be returned to the sender unreviewed. Applicants will be notified of their admission status by the Graduate School. Applicants should be aware that their records can only be reviewed when all materials have been submitted and they have met eligibility rules. Once an applicant has been admitted, he or she will be asked to submit a $100 nonrefundable tuition deposit to reserve a space for the summer admission. Once the student enrolls, this money will be counted toward payment of tuition.

Students are advised to contact the department for any changes in the program course requirements or in prerequisite requirements.

Degree Requirements
The student must maintain a 3.000 grade point average and a C or better in each of the following courses:

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Summer I</td>
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<tr>
<td>PT 715, Professional Issues and Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PT 705, Clinical Medicine I</td>
<td>2</td>
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<tr>
<td>PT 707, Introduction to Basic Patient Management</td>
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</table>

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 may be 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.

Lower-Division Course

281. Co-op Education. (1-3). A field placement which integrates course work 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 freshmen year and satisfactory academic standing prior to the first job assignment. May be repeated for credit.

Upper-Division Course

481. Co-op Education. (1-3). See PT 281.

Courses for Graduate/Undergraduate Credit

701. Research Methods and Statistics. (2). Discussion and application of statistics, critiquing scientific literature and the development of a research proposal and major literature review. Prerequisite: departmental consent.

705. Clinical Medicine I. (2). Presents the causes, diagnosis, effects, treatment, and prognosis for general medical conditions seen by physical therapists. Coordinated by the department faculty and organized around the medical model. Prerequisite: departmental consent.

707. Introduction to Basic Patient Management. (2). Introduces the student to basic patient care and medical terminology. Through clinical observation sessions, students become familiar with various types of physical therapy settings. Prerequisite: departmental consent.

710. Foundations for Education and Treatment of Musculoskeletal Conditions. (3). Introduces the basic scientific foundation and clinical rationales used during evaluation and treatment of musculoskeletal conditions. In-depth studies of the art of palpating surface anatomy, performance of manual muscle testing (MMT), and goniometric measurements. Emphasizes review of clinical and scientific literature pertaining to evaluation and treatment of musculoskeletal conditions. Prerequisite: departmental consent.

711. Clinical Biomechanics. (3). Presents a kinesiological foundation of all joints so stu...
have the ability to differentiate causes of musculoskeletal problems. Prerequisite: departmental consent.

715. Professional Issues and Ethics. (3). Introduces the profession of physical therapy. Addresses the profession, settings for delivery of services, professional ethics, regulation of the profession, levels of personnel, and other issues directly related to the practice of the profession. Introduces specific issues and challenges the profession is addressing as the larger system for health and medical services changes. Prerequisite: departmental consent.

716. Clinical Medicine II. (2). Presents the causes, diagnoses, effects, treatment, and prognoses for orthopedic conditions seen by physical therapists. Coordinated by department faculty and organized around the medical model. Prerequisite: departmental consent.

717. Therapeutic Exercise. (1). Gives basic skills for assisting movement in patients with neurological impairments. Prerequisite: departmental consent.

718. Physical Agents in Physical Therapy. (4). Presents utilization of physical modalities related to sound, light, electricity, water, paraffin, traction, and massage to achieve physiological and mechanical results. Incorporates evaluation and treatment methods for the above modalities along with analysis of relevant scientific literature. Prerequisite: departmental consent.

719. Clinical Medicine III. (2). Presents the causes, diagnoses, effects, treatment, and prognoses for neurological, pulmonary, and cardiovascular conditions seen by physical therapists. Coordinated by department faculty and organized around the medical model. Prerequisite: departmental consent.

720. Assessment and Intervention in Acute Conditions. (2). Addresses the management of acute physical conditions, including industrial medicine intervention, lower extremity amputation management, and upper extremity orthotic devices. Also includes the management of intensive care patients in the hospital and at home. Prerequisite: departmental consent.

721. 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: departmental consent.

722. Experimental Courses. (1-4). One-time course offerings. Prerequisite: departmental consent.

Courses for Graduate Credit Only

800. Clinical Education I. (6). Introduction to physical therapy care in varied settings requiring communication and interpersonal relations skills; application of basic physical therapy procedures; beginning professional socialization; beginning development of a generalist in physical therapy. Prerequisite: departmental consent.

801. Cardiopulmonary Assessment and Intervention. (2). Continuation of PT 745. Adds concepts and material to allow students to assess and treat patients with cardiopulmonary conditions. Prerequisite: departmental consent.

802. Orthopedic Assessment and Intervention I. (3). Introduces the basic scientific foundation and clinical rationale used during evaluation, assessment, and treatment of musculoskeletal conditions. Builds on first year PT courses. In-depth study of different injuries and lesions, specific evaluation techniques, and treatments of those injuries and pathologies. Deals mainly with the upper quarter and includes the entire upper extremity, cervical and thoracic spine. Emphasizes organizing and synthesizing information from PT curriculum to allow integration and problem-solving skills to enable students to become competent practicing physical therapists. Prerequisite: departmental consent.

803. Orthopedic Assessment and Intervention II. (3). Continuation of PT 802. Deals mainly with the lower quarter and includes the entire lower extremity, lumbar spine, sacroiliac joint, and pelvis. Emphasizes organizing and synthesizing information from PT curriculum to allow integration and problem-solving skills to enable students to become competent practicing physical therapists. Prerequisite: departmental consent.

804. Physical Therapy Administration I. (2). Studies management systems including assessment, planning, organization, staffing, leadership and motivation, control, and evaluation methods. Includes environmental assessment and strategic planning, organizational design, human resource management, fiscal considerations, and leadership and management styles. Prerequisite: departmental consent.

805. Physical Therapy Administration II. (2). Studies payment systems, legal aspects of physical therapy, risk management, assurance of quality physical therapy care. Includes peer review, audit, documentation, legal aspects, fiscal consideration, and community resources. Prerequisite: departmental consent.

806. Educational Methods in Physical Therapy. (1-6). Continuation of PT 745. Discusses teaching and learning theories as they apply to physical therapy education of patients, students, health professionals, and the community. Includes methods of developing and evaluating content, instructional strategies, and learning outcomes. Prerequisite: departmental consent.

807. Neurological Assessment and Intervention. (3). Continuation of PT 745. Adds concepts and material to allow students to assess and treat patients with neurological conditions. Prerequisite: departmental consent.

808. 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 and 735.

809. Special Populations. (3). Expands upon basic evaluation and treatment skills of geriatrics, women's health, and industrial medicine regarding physical therapy practice. Also includes psychosocial elements, medical complications, health promotion and prevention information as it pertains to the three special populations listed. Prerequisite: PT 735.

810. Directed Study. (1-3). Individual study with a focus developed in collaboration with a department faculty member. Allows students to pursue an area of special interest. Prerequisite: departmental consent.

811. Directed Research. (1-3). Individual study with objectives developed in collaboration with a department faculty member. Repeatable for credit with program consent. Prerequisite: program consent.

812. Clinical Education II. (6). First in a series of three six-week 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.

813. Clinical Education III. (6). Continuation of PT 812. Prerequisite: program consent.

814. Life Span Assessment, Intervention, and Prevention. (3). Incorporates specific areas of physical therapy as they are applied to individuals through their lifetime. Includes gerontology; normal growth and development; healthy lifestyles for children, teens, and adults; obstetrics; and gynecology. Emphasizes prevention. Prerequisite: departmental consent.

815. Clinical Education IV. (6). Continuation of PT 814. Prerequisite: program consent.

816. 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
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 for 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. 220 (4 hours), Biol. 223 (5 hours)
   b. Chem. 111Q (5 hours), Chem. 112Q (5 hours)
   c. Math. 111, College Algebra or equivalent (3 hours)
3. Additional courses must be completed:
   a. The GEC requirements
   b. Biol. 203Q (5 hours), Biol. 220 (4 hours), Biol. 223 (5 hours)
   c. Chem. 111Q (5 hours), Chem. 112Q (5 hours)

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 for a $20 fee. 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 factors. Each applicant is evaluated in terms of academic performance, health care experience, references, communication skills, and so forth.

Course

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<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Basic Skills</td>
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<tr>
<td>Engl. 101 and 102, College English I and II</td>
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</tr>
<tr>
<td>Comm. 111, Public Speaking</td>
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</tr>
<tr>
<td>Math. 111, College Algebra</td>
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<tr>
<td>Fine Arts and Humanities</td>
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<tr>
<td>One Introductory course from a Fine Arts discipline</td>
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<tr>
<td>One Introductory course from each of two Humanities disciplines</td>
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<tr>
<td>A Further Study course from same discipline as Introductory course or Issues and Perspectives course in Fine Arts or Humanities</td>
<td>3</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
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<tr>
<td>One Introductory course from each of two different Social and Behavioral Sciences disciplines</td>
<td>6</td>
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<tr>
<td>A Further Study course from same discipline as Introductory course or Issues and Perspectives course in Social and Behavioral Sciences</td>
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<tr>
<td>Natural Sciences and Mathematics</td>
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<tr>
<td>Introductory courses:</td>
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<tr>
<td>Chem. 111Q, General Chemistry</td>
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<tr>
<td>Biol. 203Q, Organismal Biology</td>
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<tr>
<td>Further Study course:</td>
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<tr>
<td>Chem. 112Q, General and Inorganic Chemistry</td>
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<td>Additional requirements:</td>
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<tr>
<td>Biol. 220, Microbiology</td>
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<tr>
<td>Biol. 223, Human Anatomy and Physiology</td>
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Spring

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<tbody>
<tr>
<td>PHS 388, Clinical Anatomy I</td>
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</tr>
<tr>
<td>PHS 390, Clinical Physiology</td>
<td>3</td>
</tr>
<tr>
<td>PA 300, Medical History and Physical Examination</td>
<td>4</td>
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<tr>
<td>PA 302, Patient Counseling</td>
<td>2</td>
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<tr>
<td>PA 315, Physician Assistant Professional Issues</td>
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<tr>
<td>PA 320, Assessment and Management of the EENT Systems</td>
<td>3</td>
</tr>
<tr>
<td>PA 325, Preventive Medicine and Community Health</td>
<td>2</td>
</tr>
<tr>
<td>PA 420, Applied Clinical Pharmacology I</td>
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</tr>
<tr>
<td>Med. T. 310, Clinical Laboratory</td>
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Summer

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<tbody>
<tr>
<td>PHS 389, Clinical Anatomy II</td>
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<td>PA 316, Assessment and Management of the Integument</td>
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<tr>
<td>PA 317, Assessment and Management of the Endocrine System</td>
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<tr>
<td>PA 323, Assessment and Management of the Cardiopulmonary Systems</td>
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<tr>
<td>PA 330, Assessment and Management of Gastrointestinal System</td>
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<tr>
<td>PA 333, Assessment and Management of Obstetrics and Gynecology</td>
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</tr>
<tr>
<td>PA 335, Assessment and Management of the Renal and Genito-Urinary Systems</td>
<td>3</td>
</tr>
<tr>
<td>PA 336, Applied Clinical Practice</td>
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</tr>
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<td>PA 421, Applied Clinical Pharmacology II</td>
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Fall

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<td>PA 410, Clinical Rotation I</td>
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<tr>
<td>PA 412, Clinical Rotation II</td>
<td>3</td>
</tr>
<tr>
<td>PA 414, Clinical Rotation III</td>
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</tr>
<tr>
<td>PA 418, Clinical Rotation IV</td>
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Spring
PA 419, Clinical Rotation V ..................3
PA 422, Clinical Rotation VI ................3
PA 425, Clinical Rotation VII ...............3
PA 432, Clinical Conference II .............3
Total .............................................12

Summer
PA 440, Clinical Preceptorship .............6
Total .............................................6

Total Degree Hours
Preprofessional ................................57
Junior year ....................................51
Senior year ...................................30
Total .............................................138

Graduation Requirements
Students who meet the course 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 must provide evidence of a complete physical examination including a tuberculin skin test, MMR immunization, Hepatitis B or titer, and health insurance prior to clinical assignment.

Lower-Division Course

281. Cooperative Education Field Study. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 281 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment, or alternating working full time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisite: completion of the junior 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 take place in a faculty-proctored labo-

301. Patient Counseling (2). Considers the theories and techniques of patient counseling; emphasizes effective communication, basic counseling techniques, and basic strategies for therapeutic intervention. Deals with the philosophies of counseling for a wide range of cognitive and behavioral problems common to the primary care setting. Prerequisite: admission to PA professional program.

302. 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 with regard to assessment of dermatologic disorders and introduction to dermatologic disorders through case presentations. Prerequisite: admission to PA professional program.

303. Assessment and Management of Ophthalmic and Otorhinolaryngologic Problems. (3). Deals with the ophthalmic and ear, nose, and throat. Emphasizes etiology, diagnosis, and treatment of ophthalmic and otorhinolaryngologic (ENT) problems. Includes tumors of the ear, nose, throat, and eye; audiometry and ophthalmic manifestations of systemic diseases. Prerequisite: admission to PA professional program.

304. Assessment and Management of the Cardiopulmonary Systems. (4). 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 studies, EKGs, laboratory studies; includes pulmonary functions and blood gases as applicable to the primary care setting. Prerequisite: admission to PA professional program.

305. Preventive Medicine and Community Health. (2). Addresses topics in preventive medicine and community health including risk factors for the major causes of death and disability, behavioral techniques used in making health behavior change, health-risk appraisal instruments, health screening, and disease and accident prevention. Introduces community agencies with roles in disease prevention, health education, and health promotion. Prerequisite: admission to PA professional program.

306. Assessment and Management of the Gastro-Intestinal System. (3). A theory, laborato-

ry, 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 symptoms, roentgenology of the GI tract, GI manifestations of psychic disturbances, and demonstration of special diagnostic instruments. Prerequisite: admission to PA professional program.

332. Assessment and Management of the Neuro-Musculo-Skeletal Systems. (3). Emphasizes the recognition, evaluation and management of neuro-musculo-skeletal diseases and injuries in primary care, emergency, and inpatient settings. Prerequisite: admission to PA professional program.

333. Applied Clinical Practice. (2). Further prepares students for the senior clinical learning experience and practice beyond. Emphasizes patient management, clinical problem-solving, and critical-thinking skills in both inpatient and outpatient settings. Includes small group discussion, computer-assisted instruction, problem-oriented patient cases, patient interaction, and individual patient presentations. Prerequisite: admission to PA professional program.

334. Assessment and Management of the Neuro-Musculo-Skeletal Systems. (3). Emphasizes the recognition, evaluation and management of neuro-musculo-skeletal diseases and injuries in primary care, emergency, and inpatient settings. Prerequisite: admission to PA professional program.

335. 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 normalities and abnormalities; medical terminology, evaluation of patients; patient rapport and professional conduct. Emphasizes orientation to medical practice-setting and obtaining and recording a complete and/or problem-oriented physical 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. Emphasizes obtaining and recording complete and/or problem-oriented physical examination data. Graded S/U.


418. Clinical Rotation IV. (3). See PA 410. Emphasizes the selection of appropriate therapeutic regimens and their indications, availability, reliability, and limitations. Graded S/U.

419. Clinical Rotation V. (3). See PA 410. Emphasizes the art of medicine and gaining the confidence of the patient and family. Graded S/U.

420. Applied Clinical Pharmacology I. (3). Introduces pharmacology and clinical application of specific categories of drugs. Presents mechanism of action, pharmacokinetics, indications, dosages, side effects, and monitoring parameters of selected drug categories. Facilitates clinical application of this knowledge through case studies. Includes patient specific dosage modification, drug selection, patient education, compliance, and economic issues. Prerequisite: admission to PA professional program.

421. Applied Clinical Pharmacology II. (3). A continuation of PA 420. Discusses clinical application of specific categories of drugs commonly encountered in acute care settings. Includes first-line versus second-line drugs, alternate drugs, drug interactions, and adjustment of drug dosages. Explores responsibility related to data collection, problem identification, and consultation with the practitioner and pharmacist. Prerequisites: PA 420 and admission to PA professional program.


425. Clinical Rotation VII. (3). See PA 410. Emphasizes 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). IR; 2L. Major focus on synthesis of didactic and clinical education and training as it applies to advanced cardiac life support. Graded S/U. Prerequisite: student in PA professional program.

432. Clinical Conference II. (3). IR; 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 program.

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.


Public Health Sciences
The Department of Public Health Sciences offers the Bachelor of Science in Health Services Organization and Policy and the Master of Public Health degrees. The department offers a certificate in Basic Emergency Medical Training (EMT) and a program for the training of Mobile Intensive Care Technicians (MICT) or paramedics. The department also offers a variety of courses in the basic health sciences—anatomy, physiology, pharmacology, and nutrition—to serve a variety of programs in the college and University at the undergraduate and graduate levels. A graduate certificate program in public health is available for individuals whose primary goal is core public health training.

Bachelor of Science in Health Services Organization and Policy
The program in health services organization and policy (HSOP) seeks to develop professionally competent individuals to serve in various capacities in the healthcare industry. The mission of the HSOP program is to provide tomorrows health care leaders with core managerial, analytical, social and behavioral science competencies necessary for working effectively in the rapidly changing health care system. Achieving competency in these core areas prepares students for entry-level management positions in settings such as: long-term care, public health, group practice/insurance, managed care, non-profit organizations, public sector or government agencies, and pharmaceutical and medical supply sales. For those who want to pursue management careers in the health industry, students may also wish to obtain a minor in business through the Barton School of Business.

The HSOP degree can be a useful augmentation to an associate degree or other appropriate credentials in an allied health area, such as physical therapy assistant, radiology, mobile intensive care technician (MICf), dental hygiene, and respiratory therapy. In addition to specific clinical skills, the HSOP degree provides additional leverage in pursuing clinical management opportunities.

The HSOP degree also provides a foundation for advanced degrees in both clinical and non-clinical professional areas, such as public health, physical therapy, dentistry, social work, gerontology, and other related areas.

A plan of study can be tailored to an individual's special interests, whether it is health management, clinical professional services, or the ultimate goal is to pursue advanced studies. Advisors will work with each student to develop the best plan of study to meet the student's professional goals.

Undergraduate Minor
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 PHS 320, Overview of Health Services Delivery; PHS 325, Dynamics of Community Health; and PHS 328, Health Care Organization. Six hours of elective PHS courses are also required for completion of the minor.

Admission
In order to be admitted to the health services organization and policy program, students must fulfill the following requirements:

1. Be enrolled in or admitted to Wichita State University.
2. Have completed Engl. 101 and 102, Comm. 111, and Math. 111, each with a C or better.
3. Have an overall grade point average of 2.000 or above in all course work.
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 Ahlerberg Hall.

Progression
Students in the health services organization and policy major are required to maintain a cumulative grade point average of 2.250 in course work required in the major, including those courses chosen for elective credit toward the major, with no individual course grade lower than a C. Students failing to meet this requirement will have one semester to correct their GPA deficiency. 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 33 credit hours for the major. The following courses will constitute 24 hours toward the major. Nine additional hours are to be selected from electives listed, or, if not selected from courses listed, electives must be approved by the department chair or the HSOP program coordinator. The student may choose between PHS 460, Practicum, and PHS 461, Special Project. In addition, the student may choose to extend the practicum to 6 or 9 hours. However, the additional hours beyond the 3 required may not count toward the 9 hours of elective credit.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>PHS 320, Overview of Health Services Delivery</td>
<td>3</td>
</tr>
<tr>
<td>PHS 325, Dynamics of Community Health</td>
<td>3</td>
</tr>
<tr>
<td>PHS 328, Health Care Organization</td>
<td>3</td>
</tr>
<tr>
<td>PHS 333, Organizational Behavior and Leadership in Health Service Organizations</td>
<td>3</td>
</tr>
<tr>
<td>PHS 343, Program Planning/Development in Health Services</td>
<td>3</td>
</tr>
<tr>
<td>PHS 442, Financing Health Care Services</td>
<td>3</td>
</tr>
<tr>
<td>PHS 454, Health Politics and Nutrition</td>
<td>3</td>
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<tr>
<td>PHS 460, Practicum</td>
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<tr>
<td>PHS 461, Special Project</td>
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<tr>
<td>Approved electives to complete the 33 hours required by the major:</td>
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<tr>
<td>PHS 433, Introduction to Research and Evaluation Methods for Health Care Professionals</td>
<td>3</td>
</tr>
<tr>
<td>PHS 458, Long-term Care System</td>
<td>3</td>
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<td>PHS 490, Independent Studies in HSOP</td>
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<tr>
<td>PHS 638, Concepts of Quality</td>
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<td>PHS 641, Health Care for Special Populations</td>
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<tr>
<td>PHS 647, Health Care Operations Analysis</td>
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<td>PHS 652, Strategic Management in Health Service Organizations</td>
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<td>PHS 686, Seminar in HSOP</td>
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Approved electives to complete the 33 hours required by the major:

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<td>PHS 400, Introduction to Pathophysiology</td>
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<tr>
<td>PHS 531, Applied Principles of Nutritional Support and Therapy</td>
<td>3</td>
</tr>
<tr>
<td>PHS 575C, Special Cases in Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>PHS 631, Normal and Clinical Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>PHS 301, Sociological Statistics</td>
<td>3</td>
</tr>
<tr>
<td>or PHS 401, Psychological Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

Other courses will be considered on an individual basis with approval by the department chair or the HSOP program coordinator. In some cases there may be courses available from other colleges in the University which would serve to enhance the student's special area of interest, such as ethics or gerontology, which may be chosen with the approval of the department chair or the HSOP program coordinator.

Lower-Division Course

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.

203. Medical Terminology. (2). Provides a foundation of medical terminology for individuals who need a familiarity of the medical language. Ideal for preprofessional students preparing for one of the health professions or students currently enrolled in a health professions program. Also valuable for individuals such as medical records technicians, medical transcriptionists, medical secretaries, medical insurance personnel, administrators in health care, and pharmaceutical representatives.

210G. Current Issues in Food and Nutrition. (3). Survey course; examines the various controversies, fads, 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.

281. Cooperative Education Field Study. (1-8). 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. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit.

Upper-Division Courses

301. Clinical Pharmacology. (3). Surveys 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 indepth study of the landmarks, muscles, nerves, vascular supply, etc. of the head and neck region. Prerequisites: Biol. 223 and enrollment in Dental Hygiene Program.

320. Overview of Health Services Delivery. (3). Examines the nature of the health care delivery system: the structure and facilities through which care is provided, the personnel who administer the care, the consumers served by the system, the fiscal mechanisms which enable the system to operate, and the public sector factors which shape and regulate the outcomes. Pays particular attention to the underlying influence of money, power, and politics which often links personal illness experience with patterned responses of the health care industry.

325. Dynamics of Community Health. (3). Introductory course to study the multiple dimensions of public health. Presents the foundational and structure used to resolve medical and environmental health problems. Focuses on the health of populations and sub-populations, emphasizing prevention. Prerequisites: Biol. 106Q 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. Emphasizes types of health care organizations, leadership and managerial roles, organizational structure and dynamics, interactions with organizational environments, and evaluation and planning. Prerequisites: PHS 320 or 325 or concurrent enrollment.

331Q. Principles of Dietetics and Nutrition. (3). 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.

333. Organizational Behavior and Leadership in Health Service Organizations. (3). Introduces the concepts of leadership in health care organizations with a focus on the differing leader roles with peers, subordinates, supervisors, patients, professional and trade organizations, and volunteers. It applies general concepts of leadership from behavioral sciences and management to the special case of health care organizations, emphasizing leadership styles and roles, intraorganizational communications, interpersonal and group relationships, motivation, and implementation of organizational change. Prerequisite or corequisite: PHS 320 or 325.

343. Program Planning/Development in Health Services Organizations. (3). Presents the range of planning methods currently used.
in health service organizations including strategic and operational planning as well as program and project development. Provides a conceptual framework for planning to allow application of skills which will facilitate student understanding of the importance of planning in order to give management direction in decision making in an environment characterized by a high degree of risk and uncertainty. Students use these methods to plan a program or project. Prerequisites: PHS 325 or concurrent enrollment, and PHS 328.

388. Clinical Anatomy. (3). Fall semester. Further the understanding of the health professional in a comprehensive and/or specific area of human anatomy. Emphasizes human anatomy of the back, upper extremity, lower extremity, head, and neck. Prerequisites: Biol. 223 or equivalent and enrollment in the Physician Assistant Program or instructor's consent.


390. Clinical Physiology. (3). Further the understanding of the health professional in a comprehensive and/or specific area of human physiology and the clinical application of this knowledge in patient management. Departments select the number of credit hours needed for their program and offer them under this course number with a designated section. Prerequisites: instructor's consent and enrollment in one of the professional programs.

400. Introduction to Pathophysiology. (3). Cross-listed as NUR 400. For biological upper-division students enrolled in the College of Health Professions. Focuses on the essential mechanisms of disordered function which produce common diseases. Discusses some common diseases, but as examples of the basic processes 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 management. Prerequisite: program chairperson's consent.

420. Introduction to Research and Evaluation Methods for Health Care Professionals. (3). Deals with methods, statistical procedures, and design strategies to allow students to design, understand, and interpret results of research and evaluation that address specific health care issues. Covers research design, statistical techniques, and data analysis. Prerequisite: BIOL 111-112 or equivalent.

421. Health Care Research. (3). Designed for health care professionals who wish to analyze the outcomes of research findings. Explores research design, data collection, data analysis, and writing. Prerequisite: BIOL 111-112 or equivalent.

422. Survey of Health Care Organizations and 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 of departments, 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.

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 content, 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.

583. Anatomy of the Body Cavities. (3). The gross anatomy of the human body cavities presented in a four-week summer term using a regional approach. Teams of eight students dissect the thoracic, abdominal, and pelvic cavities on human cadavers, emphasizing cardiovascular, respiratory, gastrointestinal, and urogenital systems. Prerequisite: Biol. 203 or 223.

586. Normal and Clinical Nutrition. (4). Studies human nutritional needs in normal development and the life cycles. Covers composition, classification and function of foods and nutrients, food handling and public health safety and laws, and nutrition and disease conditions. Includes a study of principles of nutritional support and diet as therapy. Addresses the dietary concerns of a variety of clinical disorders, including gastrointestinal disorders, diabetes mellitus, cancer, burns, liver disease, obesity and weight loss, eating disorders, HIV infections, kidney and cardiovascular disease, parental and enteral nutrition, and surgical conditions. Includes nutritional assessment, data interpretation, care planning, record keeping, and client communications. Prerequisites: general chemistry, anatomy, and physiology.

638. Concepts of Quality. (3). For health care personnel. Covers issues of quality assurance and improvement in health care provision, including definition and measurement of quality. Prerequisite: PHS 320 or departmental consent.

641. Health Care for Special Populations. (3). Analyzes societal factors that influence the kinds of care made available to population groups with increased risk of disease, disability, or premature death. Examines how cultural differences affect lifestyle choices, attitudes toward health, help-seeking behavior, and service utilization. Takes an applied approach, engaging each student in a significant problem-solving effort. Conducts field work from our community-based laboratory in partnership with residents of one of the area's most culturally diverse neighborhoods. Prerequisite: PHS 320 or 325 or instructor's consent.

647. 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: PHS 320 and 328 or Mgmt. 360 or departmental consent.

652. Strategic Management in Health Service Organizations. (3). Provides an analysis of business problems seen in health care organizations from a strategic management perspec
ić. Uses a series of case studies which require that the student integrate the functional areas of business, including management, marketing, finance, and operations. Discusses all types and sizes of health service organizations in the context of the current environment for these organizations. Prerequisite: PHS 328 or departmental consent.

686. Seminar in Health Services Organization and Policy. (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.

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.

720. Neurosciences. (3). 3R; 2L. Integration of neuroanatomy and neurophysiology of the central and peripheral nervous systems with human functional abilities. Prerequisite: PHS 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 service.

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: PHS 701 or program consent.

817. Clinical Epidemiology. (3). Involves the application and elaboration of epidemiological principles, including evidence-based medicine and critical appraisal of the literature in the context of clinical decision-making; design and interpretation of studies relating to diagnosis, prognosis, prevention, and therapeutics; techniques for second-guessing; and use of clinical epidemiology to develop practice guidelines. Prerequisite: instructor's consent.


821. Community Health Assessment and Development. (3). Focuses on three areas: (1) Value issues related to community health assessment and development, including value choices, clarification of choices, trade-offs, and public judgement. Explores the value and belief systems of libertarians, classic liberals, and communitarians. (2) Development of tools, both conceptual and technical, needed to conduct community health assessments. Includes methods of data collection, both formal and informal. (3) Development of health care information systems. Policy issues related to community development including allocation of health resources by comparing benefits of competing interventions. Addresses major allocation issues, such as who allocates resources, using the Health Resource Allocation Strategy.

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: PHS 818.

823. Social Epidemiology. (3). Examines the patterns and explanations for diversity in morality and morbidity in populations, focusing on social factors including social class, race, ethnicity, culture, stress, and social relationships. Explores current thinking about the explanations for morality and morbidity patterns.

824. Advanced Epidemiological Methods. (3). Presents additional statistical techniques and their application in the analysis of public health data emphasizing the analysis of cross-sectional, retrospective, longitudinal, and case-control data. Prerequisites: PHS 804 and 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. Pays particular attention 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.

827. Reproductive Epidemiology. (3). Applies epidemiologic concepts to problems in reproductive health of men and women. Critical analysis of epidemiologic studies on sociocultural, individual, and pregnancy-specific risk factors to reproduction. Explores methods to reduce adverse reproductive health outcomes in populations, including work and family policy initiatives. Uses literature synthesis skills in a project focused on preventing adverse repro-
ductible outcomes in a defined population. No
prerequisites but PHS 804 and 808 are recom-
manded.

Covers issues of evaluation in health settings,
including needs assessment, setting objectives,
selection, implementation, and evaluation of
programs and interventions. Prerequisite: PHS
818.

829. Clinical Trials. (3). The design, implementa-
tion, analysis, and assessment of controlled
clinical trials. Emphasizes basic biostatistical
concepts and models. Explores issues of cur-
rent concern to trialists. Prerequisite: PHS 804
or instructor’s permission.

830. Issues in Health Services. (3). An in-
depth look at current issues facing health pro-
essionals. Topics, presented in lecture and stu-
dent presentations and discussed in small
groups, include health reform, access to care,
other system issues, and organizational trends
and strategies. Critiques topics 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 mea-
surement of quality.

833. Health Economics. (3). An application of
classical economic theories, principles, and
concepts to the traditional U.S. medical care.
Considers both the traditional and unique
determinants of demand and supply, empha-
sizing the role of need for care, provider-
induced demand, and health insurance. Also
considers the legitimate role of government in
health care.

834. Financing Health Care Services. (3).
Provides an examination of the principles of finan-
cial analysis and management used in health
care delivery settings which are organizationally
based financial personnel. Emphasizes understand-
ing and application of general financial con-
cepts to the health setting and includes consider-
ation of financial organization, sources of
operating revenues, budgeting, and cost allo-
cation methods.

835. Organization, Financing, and Delivery of
Health Care. (3). Introduces the organization,
financing, and delivery modalities of the U.S.
medical care system. Examines the develop-
ment and application of hospital reimburse-
ment methodology (DRC-based PPS) and
physician reimbursement methodology (RBRS).
Introduces the principles of health
insurance and examines the role of private and
public (Medicare, Medicaid) health insurance
in health care utilization. Also explores health
status outcomes and quality of life measures.

836. Maternal and Child Health in a Social
Context. (3). Explores the effects of the social
context on maternal and child health. Empha-
sizes the family and the social values and
beliefs that affect it since it is the most immedi-
ate context of mothers and children. Includes
other contextual influences such as race and
ethnicity, social class, work, and community
resources, and support. Develops and assesses
models of influence. Discusses the effect of
public policies on maternal and child health.

837. Community-Oriented Primary Care Epi-
demiology. (3). Overview of how population-
based epidemiological concepts are applied to
primary care settings, within the framework of
community-oriented primary care (COPC).
Emphasizes community and clinic populati-
ons. Teaches epidemiology theory and prima-
ry care research. Prerequisite: PHS
808 or instructor’s permission.

838. Applied Data Analysis. (3). Guides stu-
dents through the data analysis and data man-
agement aspects of population-based research
and evaluation studies. Includes managing
data on personal computers using SPSS for
Windows, preparing data for computerization,
cleaning and assessing the quality of data,
developing and assessing measures, choosing
appropriate statistical methods, reading and
analyzing computer printouts, and reporting the
results in research papers or technical
reports. Requires application of statistical
methods learned in introductory biostatistics
as well as regression analysis. Students learn to
use SPSS for Windows. Uses population-
based data, both survey and administrative.
Analytic portion of course is organized around
specific research questions and the statistical
tools appropriate for answering them.

840. Practicum. (1-6). Links academic studies
with actual practice through observation and
participation in the administrative and educa-
tional processes of public, voluntary, and pri-
ivate health organizations, under the direction
of a preceptor from the host agency. Graded
CR/NC only.

842. Public Health Applications to the World
Wide Web. (2). Documents the creation and


education courses to receive the AAS degree may apply to the bachelor's degree program in health sciences.

**Lower-Division Courses**

205. Introduction to Advanced Pre-Hospital Care (4). An overview of the role of pre-hospital personnel, medical ethics, medical legal issues, EMS systems, communication procedures, medical terminology, patient assessment, history taking, body systems review, and fluid and electrolytes. Prerequisites: instructor and department approval.

207. Electrocardiology. (3). Presents the techniques of assessment and management of the cardiac patient and associated disease processes common with the cardiac patient. Covers recognition of cardiac rhythms and management of different cardiac arrhythmias from the standpoint of emergency care. Prerequisites: instructor and department approval.

210. Pre-Hospital Pharmacotherapeutics. (3). Presents the information needed for administering the medications used in pre-hospital situations, the methods of administration, conversion of various measures and information on drug regulating agencies. Prerequisites: instructor and department approval.

215. Adult and Pediatric Medical Emergencies. (8). Presents the pathophysiology and management of disorders of the respiratory system, endocrine system, central nervous system, and gastrointestinal system. Includes information on communicable diseases, exposure emergencies, geriatric emergencies, pediatric emergencies, obstetric emergencies, and psychiatric emergencies. Prerequisites: instructor and department approval.

217. Traumatology. (7). Discusses the kinematics of injury and management of the adult and pediatric trauma patient, including airway and fluid management, pre-hospital treatment of various injury states including blunt and penetrating trauma, burns, and triage. Prerequisites: instructor and department approval.

220. Clinical Internship. (9). Receive in-hospital training with physicians, nurses, and technicians in their area of expertise including the ER, SICU, PICU, MICU, OR, IV Team, LDR, and other areas where skills learned can be applied to pre-hospital care. Prerequisites: instructor and department approval.

222. Clinical Correlation. (1). Review and discussion of experiences gained during the clinical internships and the application of this information to the pre-hospital setting. Prerequisites: instructor and department approval.

224. Field Internship. (11). Pre-hospital training with local emergency medical services which are supervised by certified MICTs. Prerequisites: instructor and department approval.

226. Field Correlation. (1). Review all material and skills gained during the program and apply this information to the field experience. Prerequisites: instructor and department approval.

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**School of Nursing**

The School of Nursing offers the Bachelor of Science in Nursing and the Master of Science in Nursing. For more information about the master's degree, refer to the Wichita State University Graduate Bulletin.

**Bachelor of Science in Nursing**

The Bachelor of Science in Nursing program is designed to prepare students for the practice of professional nursing. The graduate is prepared for beginning positions in nursing in any health care delivery system and for further study at the master and doctoral levels and for advancement to nursing positions of increasing responsibility and leadership.

Students are admitted to the School of Nursing at the junior year after completing 58 hours of course work. Persons interested in the Bachelor of Science in Nursing may direct inquiries to: Nursing Counselor, 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 hours per semester or attending Summer Session.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 111, 112 or 211</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Public Speaking</td>
<td>3</td>
</tr>
</tbody>
</table>

**Humanities and Fine Arts**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phil. 100G, The Meaning of Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Course in humanities other than</td>
<td>3</td>
</tr>
<tr>
<td>Social and Behavioral Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Psy. 111Q, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Psy. 334Q, Developmental Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 111Q, Introduction to Sociology</td>
<td>3</td>
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</tbody>
</table>

**Natural Sciences and Mathematics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Biol. 220Q, Introduction to Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 103Q/111Q, General Chemistry</td>
<td>5</td>
</tr>
</tbody>
</table>

**Other Prerequisites**

- **Human Anatomy and Physiology | 5**
- **PHS 301, Clinical Pharmacology | 3**
- **Nurs. 285, Introduction to Nursing Practice | 2**
- **Nurs. 400, Introduction to Pathophysiology | 3**
- **CS 105, Introduction to Microcomputers | 3**
- **Statistics with approval | 3**

**Admission to School of Nursing**

Students should request an application form from the School of Nursing prior to enrolling in their last semester of prerequisite courses. 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.
5. Complete Nurse Entrance Test (NET) with a minimum composite percentage score of 60.

**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>Nurs. 300, Care Manager I</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 310, Primary Health Care</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 320, Health Alterations I</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 325, Research</td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 345, Health Assessment</td>
<td>4</td>
</tr>
<tr>
<td>PHS 631, Normal and Clinical Nutrition</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 360, Secondary Care (8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 370, Health Alterations II</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 380, Maternal-Newborn Nursing (8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 402, Care Manager II</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 410, Tertiary Care</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 420, Mental Health (8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 430, Nursing of Children (8 weeks)</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 450, Care Manager III (10 weeks)</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 470, Critical Care (10 weeks)</td>
<td>6</td>
</tr>
<tr>
<td>Nurs. 499, Clinical Capstone (5 weeks)</td>
<td>4</td>
</tr>
</tbody>
</table>

**Electives**

- Upper-division philosophy/ethics | 3
## Issues and Perspectives

**General Education course**

<table>
<thead>
<tr>
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<th>Hrs.</th>
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**Humanities and Fine Arts**

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<th>Course</th>
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<tr>
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**Social and Behavioral Sciences**

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<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psy. 111Q, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Psy. 334Q, Developmental Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Natural Sciences and Mathematics**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol. 220Q, Introduction to Microbiology</td>
<td>4</td>
</tr>
</tbody>
</table>

**Other Prerequisites**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol. 223, Human Anatomy and Physiology</td>
<td>5</td>
</tr>
</tbody>
</table>

**Statistics with approval**

| Course                                      | 3    |

**General electives**

| Course                                      | 13   |

**Total**

|                               | 60   |

**Upper-Division Requirements**

| Course                                      | 9    |

| Philosophy/Ethics                       | 3    |
| Electives                                 | 6    |

**Total**

|                               | 9    |

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### Professional Curriculum

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>PHS 301, Clinical Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 325, Research</td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 334, RN Bridge Course</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 345, Health Assessment</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 456, Primary Prevention</td>
<td>2</td>
</tr>
<tr>
<td>Nurs. 461, Care Manager</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 495, Clinical Capstone Course-RN</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 531, Nursing and Computer Technology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Career enhancement electives**

| Course                                      | 6    |

**Total**

|                               | 30   |

### Upper-Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>320. Health Alterations I</td>
<td>3</td>
</tr>
<tr>
<td>325. Research in Nursing</td>
<td>2</td>
</tr>
</tbody>
</table>

**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 complete a personal history and evidence provided by personal health insurance and evidence of a completed physical examination prior to clinical laboratory experiences. 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.

### Lower-Division Course

**285. Introduction to Nursing Practice.**

Introduces the discipline and scope of nursing as practiced in diverse settings. Examines dimensions of current and emerging roles of nursing within the context of the student's self-awareness of personal and professional goals. Prerequisite: sophomore standing.

**334. RN Bridge Course.**

Enhances the knowledge base of the RN-BSN student in leadership and management theory and application, issues in professional nursing, therapeutic communication, and nursing theory. Prerequisite: admission to WSU School of Nursing.

**335. Transitions to Professional Nursing.**

Introduces the licensed practical nurse (LPN) to the study of nursing as a practice discipline and professional nursing roles. Emphasizes the nursing process and the self-care concept of nursing and its use in professional practice, education, and scholarship. Prerequisites: current license as an LPN in Kansas and admission to the School of Nursing.

**345. Health Assessment.**

Clinical course emphasizes care for patients with acute illness and/or acute complications of chronic illness in secondary care settings. Focuses on the application of therapeutic interventions to maximize health potential in individuals from the young adult to the frail elderly. Prerequisites: Semester 5 courses. Corequisites: Semester 6 courses.

**370. Health Alterations II.**

Emphasizes health alterations and chronic conditions of adults. Studies interventions which enhance the quality of life for adults with illness and chronic health alterations. Prerequisites: Semester 5 courses. Corequisites: Semester 6 courses.

**380. Maternal Newborn Nursing.**

Clinical course emphasizes care for patients with acute illness and/or acute complications of chronic illness in secondary care settings. Focuses on the application of therapeutic interventions to maximize health potential in individuals from the young adult to the frail elderly. Prerequisites: Semester 5 courses. Corequisites: Semester 6 courses.

**400. Introduction to Pathophysiology.**

Introduces students to pathophysiology. Cross-listed as PHS 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. Presents 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.

402. Care Manager II. (3). Explores the social and economic impact of care management. A major component is the completion of a community assessment project. Includes professional issues, ethical/legal implications of practice, and leadership and management concepts. Prerequisites: Semester 5 courses. Corequisite: Semester 6 courses.

410. Tertiary Care. (3). 11P. Clinical course emphasizes patient care management of young adult to frail elderly individuals with complex health problems. Focuses on therapeutic interventions directed at acute, subacute, or chronic disease maintenance within clients' existing and potential abilities and within a tertiary care setting. Prerequisites: Semester 6 courses. Corequisite: Semester 7 courses.


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. Educative-Supportive Nursing Systems. (3). 2R; 3L. 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. Emphasizes the development of the nurse's ability to teach methods in clinical nursing situations. Builds upon the knowledge and clinical experiences of identified prerequisite courses. Enhances the knowledge and abilities of the student to educate individuals and small and large groups in a clinical setting. Prerequisite: instructor's consent.

434. Perioperative Clinical Management: Work Study. (5). 2T; 9P. Elective. Lecture/clinical course; examines the nursing needs of individuals in small groups that have various health problems requiring surgery. Focuses on the expansion of the nursing student's power to perform deliberate actions for the benefit and well-being of others in all phases of the surgical process (before, during, and after). Emphasizes the nursing student's acquisition of clinical management skills in all phases of the surgical process. Prerequisites: NURS 310, 320, 345, 360, 370, 380, or completion of 30 hours of a professional nursing program.

450. Care Manager III. (3). 2T; 7P. Provides the opportunity to apply care coordination principles to clients along the continuum of care. Emphasizes care of the client in the home setting. Examines issues related to professional nursing practice. Prerequisites: Semester 7 courses. Corequisite: Semester 8 courses.

470. Critical Care. (6). 3T; 18P. Emphasizes the provision of care for critically ill clients across the lifespan. Focuses on complex nursing interventions and clinical decision making. Prerequisites: Semester 7 courses. Corequisite: Semester 8 courses.

472. Nursing Practice IV. (6). 18P. Practicum: emphasizes the complexity of the design and control of nursing systems for individuals and groups. The student practices clinical nursing in a health care setting to synthesize nursing knowledge emphasizing the development of organizational and managerial skills. Prerequisites: Phase II nursing courses. Generic students must enroll concurrently in NURS. 473.

473. Senior Seminar. (3). Focuses on the leadership and management role of the nurse and the coordination of nursing care for groups of clients. Examines ethical/legal, economic, political, and other professional issues related to nursing practice. Prerequisites: Phase II courses. Corequisite: NURS. 472 for generic students.

473H. Senior Seminar Honors. (3). Focuses on the leadership and management role of the nurse and the coordination of nursing care for groups of clients. Examines ethical/legal, economic, political, and other professional issues related to nursing practice. An in-depth study of a concept related to leadership and/or management within the two-week intensive seminar. Phase II courses, concurrent enrollment in NURS. 472, 3250 GPA, and school consent.

478. Nursing Systems: Large Groups. (5). 2T; 9P. Studies 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.

478H. Nursing Systems for Large Groups. (3). 9P. A clinical honors course for studying nursing for large groups with potential multiple complex health problems. Focus is health promotion throughout the life span. Emphasizes the expanded development of nursing agency in the community setting. Prerequisites: Phase II courses and school consent. Corequisite: 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 complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; or non-parallel, 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.

499. Clinical Capstone. (4). 36P (5 weeks). An intensive clinical experience practicing full time in a primary, secondary, or tertiary care setting to enhance socialization into the professional nursing role. Student focuses on a selected area of practice within the current health care environment. Prerequisites: Semester 7 courses and NURS. 450 and 470.

Courses for Graduate/Undergraduate Credit

505. Directed Study in Nursing. (1-4). Elective. Individual study of the various aspects and/or problems of professional nursing. Repeatable. Prerequisite: departmental consent.


531. Nursing and Computer Technology. (3). Focuses on basic terminology and use of computer software for nursing education, practice and administration. Opportunity for hands-on experience with microcomputers. Prerequisite: admission to the nursing program or instructor's consent. Previous knowledge of computers or computer technology is not required.

543. Women and Health Care. (3). Cross-listed as Wom. S. 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 nonnursing majors.

700. Assessment of Pediatric and Adolescent Clients. (3). 2R; 3L. A theoretical and clinical laboratory experience; students focus on the assessment of pediatric and adolescent clients. Open admission to RN and graduate students.

701. Advanced Health Assessment. (2). Designed to assist students to refine history taking, psychosocial assessment and physical assessment skills. Focuses on assessment of individuals throughout the life span. Emphasizes detailed health history taking, differentiation, interpretation and documentation of normal and abnormal findings. Includes lecture, discussion and demonstration of history taking and an integrated physical assessment. Prerequisite: admission to graduate nursing program. Corequisite: NURS. 702.
Factors impacting neonatal development. Explores ways to assess the pregnant woman for problems, the use of special diagnostic tests, and the assessment of the neonate. Requires 40 laboratory/clinical hours, providing opportunities to implement various assessment and diagnostic procedures, complete laboratory/hour seminar assignments, perform complete physical examinations and complete a perinatal history. Prerequisite: admission to NNP track or department consent.

715. Advanced Nursing Practice: Roles and Issues. (3). Designed for students preparing for advanced practice. Discusses historical development of advanced practice role, the ethical, legal, political, and economic issues of such a role and current trends and future directions. Focuses on issues ranging from concerns within the local practice setting to national policy issues related to advanced nursing practice. Prerequisite: admission to graduate nursing program.

718. Advanced Technologies. (2). Focuses on application of clinical skills and interpretation of technologies utilized in a variety of clinical settings. Nurse practitioner students practice these skills in laboratory and/or clinical settings. Prerequisite: admission to one of the NP options and departmental consent. Enrollment is limited.

733. 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. Open to nonnursing majors.

734. Diabetes Mellitus Nursing Practicum. (3). An intensive clinical experience; the student 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. Open to nonnursing majors.

750. Workshops in Nursing. (1-4). An opportunity for intensive study of special topics related to nursing practice, education or research. Open to nonnursing majors.

757. Clinical Teaching Strategies. (3). Explores 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.

775. Health Care Information Systems. (3). Examines information systems as they relate to health care. Analyzes information systems in clinical management, administration, education and research. Emphasizes issues surrounding information systems and hands-on experience with selected health care information management exercises.

776. Health Care Information Systems Practicum. (3). Provides an individualized opportunity to apply the concepts/theories of information systems to a health care setting. Includes analyzing existing information programs, identifying applications for automation and undertaking small-scale development efforts. Prerequisite or corequisite: Nurs. 775.

777. Physiology/Pathophysiology of the Neonate. (3). Uses concepts of embryology, neonatal physiology and pathophysiology to provide an in-depth study of normal functioning and alteration of normal physiological functioning in cells, tissues, organs, and organ systems. Alterations form the basis for understanding a variety of pathophysiological conditions and the manifestations and impact of abnormal physiological functioning on neonates. Addresses both generalized processes and major system dysfunctions. Prerequisite: admission to NNP track or department consent.

781. Pathophysiology for Acute and Critical Care. (3). Examines pathophysiological concepts relevant to acute and critical care nursing practice. Explores the scientific knowledge base for selected clinical problems in acute care. Emphasizes pathophysiological mechanisms of disease and the relevance to clinical decision making. Prerequisite: admission to graduate program.

783. Brain Disorders in Mental Illness: Assessment and Nursing Interventions. (3). For the student preparing for advanced practice in psychiatric nursing. Considers neurotransmitters, neuroanatomy, neuropathology in the assessment and intervention approaches to the brain disorders of major mental illnesses. Prerequisite: admission to graduate program.

786. Advanced Health Assessment Practicum. (2). A concentrated assessment practicum focusing on application of knowledge from advanced health assessment courses. Students develop a complex assessment or skills in a specified setting. Emphasizes differentiation, interpretation, and documentation of normal and abnormal findings. Graded S/U. Prerequisites: Nurs. 701, 702 and departmental consent and admission to one of the NP options.

789. Pharmacology for the Neonate. (3). Discusses pharmacological agents used in the management of neonates. Reviews pharmacological principles and applies them to the use of drugs in the level II or III NICU. Explores the clinical use of drugs in the management of specific illnesses of the neonate. Stresses legal considerations for the Advanced Practice Nurse. Prerequisites: admission to NNP track or departmental consent.

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. Open to graduate or undergraduate students. Prerequisites: departmental consent.

793. Advanced Pathophysiology. (3). Explore in-depth scientific knowledge base relevant to selected pathophysiologic states confronted in primary care. This provides the basis for the foundation of clinical decisions related to diagnostic tests and the initiation of therapeutic regimens. Age specific and developmental alterations are correlated with clinical diagno-
sis and management. Application is made through appropriate examples. Prerequisites: admission to graduate nursing program and departmental consent.

795. Applied Drug Therapy. (3). Discusses the clinical application of specific categories of drugs, commonly encountered in primary care settings. Explains the use of protocols, prescription writing and the ethical/legal and economic issues surrounding the advanced nurses' role in prescribing and monitoring pharmacologic therapies in the ambulatory setting. Discusses factors such as age appropriate content related to pharmacokinetics, dosages, expected outcomes and side effects of the drugs. Addresses first line versus second line drugs, alternate drugs, drug interactions, adjusting drug dosages, patient education and compliance issues related to drug therapy. Explores the nurse's role and responsibility related to data collection, problem identification and consultation with the physician. Application is made through appropriate case studies. Prerequisites: admission to graduate nursing program and department consent.

796. Nursing Practicum in Special Setting. (1-6). Opportunity for directed practice in various settings including clinical specialties, nursing administration, nursing education and consultation. Prerequisites: departmental consent.

797. 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: departmental consent.

Courses for Graduate Students Only

803. Primary Care I: Management of Common Health Problems through the Life Span. (3). Focuses on common health problems seen in individuals and families throughout the life span. Stresses applications of current research and theory-based interventions appropriate for management by advanced registered nurse practitioners. Emphasizes strategies and protocols to manage common problems in urban and rural patients, interventions to restore individual and family levels of pre-illness health, including secondary and tertiary prevention. Prerequisites: Nurs. 803, 804 and admission to the FNP option. Corequisites: Nurs. 810.

804. Primary Care Practicum. (4). Concentrated clinical practicum in a primary care setting that addresses individuals and families throughout the life span within the context of the community. Theory and research used in clinical settings. Emphasizes health promotion, maintenance, and prevention interventions. Prerequisite: admission to the FNP option. Corequisite: Nurs. 803.

805. Health Promotion through the Life Span. (3). Focuses on the wellness of individuals and families through the life span seeking to maintain or improve health and prevent illness. Interventions reflect a preventative framework, enhanced by theory and research that provide an understanding of health and lifestyle behaviors. Prerequisites: Nurs. 703 and 705.

808. Advanced Role Practicum. (3). Prepares the student for advanced nursing practice. An intensive practicum experience; the student works with an advanced nurse practitioner in a selected clinical setting. Emphasizes role development, case management and analysis of strategies to improve nursing practice. Prerequisites: all core courses, NURS. 701A or 705, pathophysiology (Nurs. 781, 783 or 793) and at least 6 hours of a clinical concentration.

809. Primary Care II: Management of Complex Health Problems through the Life Span. (3). Focuses on complex problems seen in individuals and families throughout the life span. Stresses applications of current research and theory-based interventions appropriate for management by advanced registered nurse practitioners. Emphasizes strategies and protocols to manage complex patient problems in urban and rural patients, interventions to restore individual and family levels of pre-illness health, including secondary and tertiary prevention. Prerequisites: Nurs. 803, 804 and admission to the FNP option. Corequisite: Nurs. 810.

810. Primary Care II: Practicum. (4). Emphasizes assessment and management of common health problems across the life span, based upon knowledge of theory and research. Primary care clients with common conditions affecting major body systems assessed and managed. Weekly seminars focus upon analysis and evaluation of clinical situations and cases. Prerequisites: admission to the FNP option. Corequisite: Nurs. 809.

811. Foundations of Nursing Administration. (3). Assists the student in acquiring theoretical knowledge of organizations. Considers current issues and research in nursing administration and impact on nursing practice. Prerequisites: Nurs. 703 and 705. Prerequisite or corequisite: Nurs. 715.

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. Prerequisites: Nurs. 811 or 827.

813. Foundations of Nursing Education. (3). Assists the student explore theoretical and practical aspects to curriculum development and teaching of nursing in higher education and community health. Prerequisites: all core courses, Nurs. 718, 786 and admission to the FNP option. Prerequisites or corequisites: Nurs. 715, 793 and 795. Corequisite: Nurs. 804.

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: departmental consent and Nurs. 815.

815. Neonatal Nursing I. (4). First of two courses that integrate the physiologic, pharmacologic, and assessment skills and principles in determining appropriate care of the ill neonate. Uses current research and evidenced-based practices as the course framework. Emphasizes the effects of critical conditions on the growth and development of the neonate, including subsequent chronic health problems and the short and long-term consequences to the child's family. Discusses disorders of the central nervous, pulmonary, and cardiovascular systems. Demonstrates and applies the use of specific interventions and diagnostic procedures in laboratory/clinical settings during 40 hours of required clinical activities. Prerequisites: all core courses, Nurs. 713, 777 and 789.

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. 701, 702, 705 and 705. Prerequisite or corequisite: Nurs. 715.

821. Thesis. (1-6). Graded S/U only. Student, in conjunction with the academic advisor and a three-member thesis committee, designs and conducts a formal research project. Prerequisites: admission to graduate nursing program and departmental consent.

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, a historical study, a philosophical paper or other type project developed in conjunction with the student's faculty advisor. Prerequisites: admission to graduate nursing program and departmental 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 nursing program and departmental 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, costing out of nursing services, strategic planning and marketing. Prerequisites: Nurs. 703 and 705. Prerequisite or corequisite: Nurs. 715.

829. Health Care during Growth and Development of Children and Families. (1-4). Focuses on physical and psychosocial developmental changes from infancy through young adulthood. Considers factors that facilitate or interfere with healthy development. Provides an introduction to family stories including family development, family systems, and family stress. Emphasizes the role of the Advanced Practice Nurse in assisting children and fami-
lies during the developmental years. Modular format allows students to select specific units: Unit One: Growth and Development: The Infant and Young Child (1 credit); Unit Two: Growth and Development: The Adolescent and Young Adult (1 credit); Unit Three: Family Issues: Part I and II (1 credit each). Prerequisites: Nurs. 703 and 705.

832. Pediatric and/or Women's Health Nursing: Practicum I. (4P.) An intensive clinical experience; student focuses on the process of systematic developmental, psychosocial and health assessment of individuals within a family system. Experiences based on the student's clinical interests. Prerequisite: all core courses. Prerequisite or corequisite: Nurs. 829.

834. Adult Nursing Practicum. (3). An intensive clinical experience; student designs, implements and evaluates nursing care for adults. Selects specialized areas of study: may involve home health care, rehabilitation, maintenance or illness care of acutely or chronically ill adults. Prerequisites: all core courses, Nurs. 781 and 791A. Prerequisite or corequisite: Nurs. 805 or 839.

836. Pediatric and/or Women's Health Nursing: Practicum II. (3). An intensive clinical experience; student analyzes, prioritizes and designs therapeutic interventions in the management of common health problems affecting individuals and family systems. Experiences based on the student's clinical interests. Prerequisites: all core courses and Nurs. 805. Prerequisite or corequisite: Nurs. 853.

839. Management of Acute and Chronic Health Problems of the Adult. (3). Examines clinical concepts and issues related to major disruptions in the health status of adults. Emphasizes assessment, measurement and interventions related to acute and chronic health problems. Prerequisites: all core courses, Nurs. 781 and 791A. Prerequisite or corequisite: Nurs. 805.


847. Pediatric Primary Care I: Management of Common Health Issues. (3). Focuses on comprehensive assessment, diagnosis, and management of health and common health problems seen in children and families during the infant, childhood, and adolescent years. Stresses applications of current research and theory-based interventions appropriate for management by advanced registered nurse practitioners. Emphasizes strategies and protocols to manage common problems in urban and rural patients, interventions to restore children's and family's levels of pre-illness health, and positive behaviors. Prerequisites: Nurs. 701, 702, 703, 705, 718, 786, 829 and admission to the FNP option. Prerequisites or corequisites: Nurs. 715, 793 and 805.

848. Pediatric Primary Care I Practicum: Clinical Management of Common Health Issues. (3). Concentrated clinical practicum in a primary care setting that addresses individuals and families during the infant, childhood, and adolescent age span, within the context of the community. Emphasizes history taking; cultural, developmental, nutritional, and physical assessment; and documentation skills. Seminar focus on analysis and evaluation of clinical situations. Prerequisites: admission to the FNP option. Prerequisite or corequisite: Nurs. 847.

849. Nurse Practitioner Preceptorship. (5 or 6). A concentrated clinical practicum in an acute or primary health care setting that emphasizes the management of care for individuals. Students synthesize concepts and principles from previous classes and clinical experiences, applying theoretical and research content to acute, chronic, urgent and/or common health problems. Preceptorship is in a clinical agency appropriate to the student's clinical interests. Prerequisite: departmental consent and admission to one of the NP options.

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. Emphasizes using existing data both to determine health care outcomes and to evaluate delivery of care. Communication of findings will occur. Prerequisites: all core courses and at least 6 hours of clinical concentration. Computer literacy is an expectation.

852. Adult Case Management Practicum. (3). Applies case management principles in this intensive clinical experience as the student designs, implements and evaluates nursing care for adults. Emphasizes measuring clinical outcomes and management of resources. Prerequisites: all core courses, Nurs. 781 and 791A. Prerequisite or corequisite: Nurs. 805 or 839.

853. Reproductive Health of Women. (3). Examines women's health issues and promotes positive self-care practices for common health problems. Includes epidemiology, assessment data, diagnostic methods and self-care interventions. Encompasses health education and counseling to women during the life cycle and health care resources for women's health. Prerequisites: all core courses and Nurs. 829 and 832.

855. Management of the Acutely and Critically Ill Adult. (3). Examines advanced nursing interventions to establish stabilization and management of complications in the acutely/critically ill adult. Emphasizes the management of the adult with complex health problems. Interventions focus on application of advanced practice nursing care to the restoration of health and well being. Prerequisites: Nurs. 805, 834, 839, 852, admission to the ACNP option and departmental consent.

857. Pediatric Primary Care II: Management of Common Health Issues. (3). Focuses on health promotion, health maintenance, and risk reduction for children and adolescents with special health care needs. Emphasizes comprehensive assessment, diagnosis, and management of health, developmental, and chronic health problems within a family and developmental framework. Considers children with developmental and learning disabilities and children with selected complex and chronic health problems. Emphasizes the collaborative, interdisciplinary, primary role of the child's care in school and other settings. Addresses the unique needs of children in underserved communities. Stresses applications of current research and theory-based interventions appropriate for management by advanced registered nurse practitioners. Emphasizes strategies and protocols to manage complex patient problems in urban and rural patients and interventions to restore children's and family levels of pre-illness health, including secondary and tertiary prevention. Prerequisites: Nurs. 847 and 848.


859. Pediatric Primary Care III: Advanced Health Care for School Nurse Practitioners. (3). This multidisciplinary course builds upon the dimensions of assessment and health care for children and adolescents in a family and community framework and provides a foundation for advanced practice in school health from the perspectives of educators and health care providers. Focuses on major contemporary issues that affect the health and education of children and adolescents in the school community. Considers theories, models, and concepts from education, public health, and nursing as they relate to schools. Focuses on the link between health and education. Examines political, sociological, economic, and environmental factors, as well as major causes of morbidity and mortality. Special emphasis on cultural diversity and vulnerable and underserved populations-at-risk and strategies that enhance learning and health promotion. Prerequisites: previous courses in the FNP specialization and departmental consent.

860. Pediatric Primary Care III Practicum: School Health Practicum. (3). A clinical course to prepare the student for advanced practice as a Pediatric/School Nurse Practitioner. Focuses on the health promotion, health maintenance, and risk reduction for children and adolescents with special health care needs, and the assessment and management of health and developmental problems within a family and developmental framework. Considers children with developmental and learning disabilities and
children with select complex and chronic health problems. Emphasizes the collaborative and interdisciplinary nature of a child’s care in a school setting. Addresses the unique needs of children in underserved communities. Prerequisite or corequisite: Nurs. 859.

861. Neonatal Nursing II. (4). Continuation of Nurs. 815. Discusses disorders of the gastrointestinal, renal, endocrine, hematologic, musculoskeletal, ophthalmologic, dermatologic and immune systems, the use of specific interventions and diagnostic procedures are demonstrated and applied in laboratory/clinical settings during 40 hours of required clinical activities. Prerequisites: core courses, Nurs. 713, 777 and 789.

862. Neonatal Nurse Practitioner Preceptorship I. (6). First of two preceptorship experiences which can be taken concurrently or in consecutive semesters for a minimum of 300 clinical hours. Provides opportunities to apply knowledge and skills from advanced nursing role, theory, research, and neonatal clinical courses to the advanced therapeutic management of high risk neonates. Emphasizes therapeutic measure within a conceptual framework or model and applying findings from research relevant to comprehensive care of neonates. The client system is the neonate and family. Prerequisites: Nurs. 815 and 861.

864. Neonatal Nurse Practitioner Preceptorship II. (6). Continuation of Nurs. 862. Need a minimum of 300 clinical hours. Provides opportunities to build upon knowledge and skills gained during Nurs. 862, regarding the advanced therapeutic management of high risk neonates. Emphasizes therapeutic measure within a conceptual framework or model and applying findings from research relevant to comprehensive care of neonates. The client system is the neonate and family. Prerequisites: Nurs. 815 and 861. Corequisite or prerequisite: Nurs. 862.

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.

Students generally take three courses in the College of Education and three courses in the School of Nursing. The total program requires 14-18 credit hours. Contact the School of Nursing for details.

The following abbreviations are used in the course descriptions; T stands for theory and L for laboratory. For example, 4T, 2L means four hours of theory and two hours of lab. P stands for practicum/clinical hours; 40P means 40 hours of practicum per week.
Fairmount College of Liberal Arts and Sciences

David Glenn-Lewin, PhD, Dean
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Fairmount College of Liberal Arts and Sciences is committed to the living traditions of the liberal arts and sciences, which recognize and affirm the dynamic nature of the world, the dignity and importance of all societies, and the need for citizens to be prepared for a changing future. The members of our richly varied disciplines are united in our mission to expand, preserve, and transmit knowledge. We believe that a love of learning enhances the quality of life, for individuals and the community.

Fairmount College of Liberal Arts and Sciences offers undergraduate majors in the natural sciences, social sciences, and humanities, and programs of professional training. An education in these disciplines helps students develop critical thinking skills, knowledge and appreciation of our physical and biological world, the arts, and different cultures, 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 the workplace.

**Degrees Offered**

**Undergraduate**

The Associate of Arts, Associate of Applied Science, Bachelor of Arts, Bachelor of General Studies degrees are conferred by Fairmount College of Liberal Arts and Sciences. Each baccalaureate degree requires the completion of a minimum of 124 credits, the attainment of an overall grade point average of 2.000 including transfer work, a grade point average of 2.000 in the major and minor fields of study, and a 2.000 WSU grade point average.

The Associate of Arts degree requires completion of a minimum of 65 credit hours including 15 hours in residency at Wichita State University and 50 of the 65 credits from liberal arts and sciences departments. This degree must include the 42 credit hours required in the University’s General Education Program (described on page 19), and students must be enrolled in one of the University’s degree-granting colleges. A cumulative grade point average of 2.000 is required for the degree as well as a 2.000 for WSU academic work.

The Associate of Applied Science degree in electrical engineering technology is offered jointly with the Wichita Area Technical College. Sixty-two credit hours are required in this program including twelve hours of residency at WSU. WSU instructs general education classes, and WATC provides technical courses. Cumulative and WSU grade point averages must be at least 2.000 for this degree.

**Bachelor of Arts** degrees are offered in anthropology, biological sciences, chemistry, communication, communicative disorders and sciences, computer science, economics, English, French, geology, history, mathematics, minority studies, philosophy, physics, political science, psychology, social work, sociology, Spanish, and women’s studies.

The Bachelor of Science is available in biological sciences, chemistry, computer science, criminal justice, geology, gerontology, mathematics, and physics.

The Bachelor of General Studies requires breadth in distribution of course work and allows for the development of areas of concentration which may be thematically or occupationally related. This degree is available through every college department.

**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), criminology, English, gerontology, history, political science, psychology, social work, sociology, and Spanish. The Master of Science (MS) may be obtained in biological sciences, chemistry, computer science, environmental 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 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 and community/clinical.

For more information, consult the Wichita State University Graduate Bulletin.

**Policies**

**Admission**

Students are admitted to Fairmount College of Liberal Arts and Sciences upon meeting the general admissions requirements for Wichita State University and declaring one of three categories:

1. **Degree-bound.** These students enter with the intention of pursuing one of the degree programs offered by the college;

2. **Degree-bound as an exploratory student.** These students have not yet decided on a major area of study when they enter WSU;

3. **Nondegree-bound.** These students enroll in classes or programs for purposes other than achieving a degree.

See University admissions details in the introductory section of this Catalog.

**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 attempted at least 12 hours after being placed on probation. When dismissed, students may re-enroll only with the permission of the University’s Committee on Admissions and Exceptions.

Students who have been dismissed for academic reasons may seek readmission to the University by filing a petition—in writing—with the college’s Admissions and Exceptions Committee. Fairmount College requires petitioners to meet with an academic counselor for a personal
interview and to prepare a written petition. Cases for readmission must be developed by the student after consultation with an advisor. The petition is then considered by the college committee and forwarded to the University's committee for final action.

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

Enrollment Limits
Students in good academic standing may enroll for a maximum of 19 hours during fall and spring semesters and a maximum of 12 hours during the summer session. Students wishing to enroll beyond these limits must request approval from an academic advisor in the college dean's office or the University Advising Center.

Academic Advising
Academic advising is a sustained and comprehensive, developmental process which promotes progressive student responsibility, commitment to the pursuit of intellectual foundations, clarification of an appropriate major, disciplinary competence, academic success, and preparation for career advancement. Advising is coordinated through the college dean's office for degree-bound students within the college. Exploratory and nondegree-bound students receive advising services through the University Advising Center.

Degree-Bound Students in Fairmount College Programs
Degree-bound students who have declared interest in any of Fairmount College's programs receive advising from department faculty. Students with early and sustained involvement in their major departments develop methods of inquiry, peer and mentoring relationships, and intellectual and social perspectives which deepen and enrich their college experience and support their achievement and persistence. Students with interdisciplinary or preprofessional interests also benefit from contact with faculty advisors qualified to discuss educational programs leading to the exercise of civic and social responsibility, to the enjoyment of intellectual pursuits, and to the realization of career fulfillment.

Degree-Bound Exploratory Students
University Advising Center (UAC) faculty and staff advisors help degree-bound exploratory students remain flexible while pursuing general education requirements so that they may transfer to any college within WSU once a major is declared. Students develop educational planning skills, remove high school deficiencies, develop effective college-level study skills and habits, choose an academic major, develop personalized academic and career/life plans, and complete part of the general education requirements. Each degree-bound student is assigned an academic advisor. When a student declares a major field of study, an immediate transfer occurs to the college that sponsors that program, and an advisor from the selected discipline is assigned. Exploratory students who have not declared a major area of study are assigned to members of the faculty and staff with academic advising responsibility in the UAC. Exploratory students should declare a major or a degree preference within the first 48 hours of enrollment.

Nondegree-Bound Students
University Advising Center (UAC) faculty and staff advisors provide nondegree-bound students the services designed to be responsive to their unique needs and interests, responsibilities, and learning styles. These may involve self-enrichment, job advancement, career change, general updating, or professional certification. Programs, policies, and procedures emphasize ease of access to WSU and its resources and opportunities for individual assistance. College and high school guests and high school concurrent enrollment students also fall in this category. The UAC will connect a nondegree-bound student with an appropriate academic advisor upon request. Those students considering the possibility of transferring to degree programs at a later date should connect with specific college advising services as early as possible to assure the development of the best possible educational foundation.

The college's advising, records, and information services staff offer students assistance in becoming acquainted with departmental requirements, programs, and faculty, and assist with special advising needs and degree-completion procedures. In summary, they are a primary information resource for the University.

Application for Graduation
To assure 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 provide 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 advisor 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 curriculum are cross-listed because course content is suitable to more than one academic area. Every department or program which offers cross-listed courses provides a separate catalog description. When enrolling in cross-listed courses, students—in consultation with their advisor—may select the listing under which they wish to receive credit, but credit may
Field Trips
Attendance on field trips is mandatory in any course that includes in its Catalog description a statement that field trips are required or in which the instructor states that field trips are essential for earning credit. Absences are permitted only with the instructor's approval. Students may have credit withheld for a course if they do not complete the required field trips.

Credit for Life Experience
Fairmount College of Liberal Arts and Sciences offers credit for life experience when a student's learning from life experiences would duplicate the content of a course offered in the Catalog, when the student has worked with the faculty member authorized to teach that course to document the learning from that life experience, and when the faculty member has ascertained that the documentation supports the award of credit.

While some other universities fit college credit to the student's experience, Fairmount College (the only college at Wichita State to award such credit) requires that the learning from life experience fit the approved curriculum of the college. We are conservative in protecting the autonomy of the faculty and the goals of the curriculum. In keeping with these objectives, the faculty assist students in demonstrating their mastery of the content of a class with means appropriate to the particular class.

Students who are authorized by faculty to develop a portfolio or other documentation to seek life experience credit must be admitted to Wichita State University and must pay a nonrefundable assessment fee to the Office of the Controller. Students will be advised of fees upon entering the program. The faculty member sends a memo authorizing the (ungraded) credit to the college office. Credit is awarded and is noted on the student's transcript.

Cooperative Education
Fairmount College of Liberal Arts and Sciences participates in the Cooperative Education program which finds paid internships for undergraduates and graduates who wish to combine their classroom studies with academically related employment.

Further information is available in the Cooperative Education office, 125 McKinley Hall, or the academic information section of the Catalog.
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 science 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, criminal justice, economics, geography, minority studies, political science, psychology, social work, sociology, other approved discipline for an Issues and Perspectives class.

Other Social and Behavioral Sciences for elective use: gerontology.

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 Issues and Perspectives class.

Other Natural Sciences and Mathematics for elective use: Anthr. 100Q and 106 (counts as biology); Geog. 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 criminal 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.

3. Students who have completed three or more years of one language in high school may fulfill the foreign language requirement by successfully completing a 3-hour intermediate-level class in the same language.

4. Students with English as their second language have met the college’s foreign language requirement for a baccalaureate degree.

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 2.000 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. A minimum of 12 upper-division hours must be included in the combined major.

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 advisor 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 and all fields of study in which a major may be earned. The number of hours required for a minor is set by each department. A 2,000 minimum grade point average is required in the minor. Minors from other colleges are acceptable and must meet minimum requirements of that college.

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 advisor in the department of primary interest, each student pursuing a Bachelor of General Studies degree will develop a plan of study which outlines an area of concentration incorporating a minimum of 33 hours. No fewer than 15 and no more than 21 of these hours will be taken in a "focal" or primary department. The remaining 12 to 18 hours must be divided between at least two other departments. Concentrations may cross departmental or college lines in that they may be thematically or occupationally related. No general studies courses ("C" courses) will count toward the "primary" portion of the concentration but will be allowed in the additional portions. A minimum of 12 upper-division hours must be included in the concentration.

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 advisor 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 advisor 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.

Biocomm. Biocomm. 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 biocomm. is designed to prepare students for employment or further study in this area.

Students choosing this field major should seek the advice of the chairperson of the Department of Biological Sciences or the Department of Chemistry as early as possible. Both the biological sciences and chemistry sections of the Catalog provide complete descriptions of this major.

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 is designed to meet the need for specialists in foreign areas, international government or international economics, government, business, and international organizations. Students are prepared for careers in international organizations in the U.S. government and in business firms with international activities.

Two options are available: Option A is in area studies; Option B is a combination of area studies and international business. No minor is required for either option. Students interested in Option A should contact 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
Special Preprofessional Programs
Advisors 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.

Law school admission requires completion of a baccalaureate degree. Many majors provide appropriate foundation for the study of law, and college advising staff offer prelaw students assistance in contacting departments for academic advising.

Premedical Professions—Medicine, Dentistry, Optometry, Pharmacy, Veterinary Medicine, Podiatry, Chiropractic
Medical programs encourage students to obtain a broad education in addition to the prerequisite studies in the sciences. Preparation for a professional program should include courses that develop disciplined thinking, intelligent appreciation of values, and sympathetic understanding of society and human interaction. Students may choose to major in any field of interest in preparation for medical studies. The primary core of prerequisite courses necessary for admission to most professional schools include one year each of English composition, math, biology, inorganic chemistry, organic chemistry, and physics.

Completion of a bachelor's degree is a general admission requirement for the majority of medical schools. Some professional programs grant admission on the basis of a three-year preparatory program. Wichita State students on the three-year program may be granted the bachelor's degree if they have taken 94 credit hours (the last 30 must be at WSU) 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 a medical professions program and qualified for admission to the second year. Candidates must apply for the degree through the college office.

Academic advising for premedical professions students is provided in the student's major department. Professional program application information is coordinated through the college office.

Preparation for Secondary Education
Students planning to teach in high school may pursue a Fairmount 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 details and information, contact a major department advisor in Fairmount College of Liberal Arts and Sciences or a teaching field advisor in the College of Education.

Anthropology
Anthropology is the comprehensive study of humanity in all of its manifestations and in all times and places. Anthropology is holistic and it examines aspects of human action—psychological, biological, social, and cultural—including technological, economic, religious, political, and artistic. Anthropologists explore the vast diversity of human cultures, striving to understand and appreciate the myriad ways of life that constitute alternative solutions to the universal problems of human existence.

Anthropology combines the perspectives of the sciences and the humanities. Its traditional four subfields (archaeological anthropology, biological anthropology, cultural anthropology, and linguistic anthropology) study human beings and human societies from an interdisciplinary perspective and from both evolutionary and humanistic points of view. The department offers a broad range of courses for majors and minors and for general education requirements. These courses provide students with opportunities to learn about, appreciate, and understand the values and perspectives of people from cultural traditions other than their own, and to improve their ability to interact successfully with them.

A major in anthropology consists of at least 30 semester hours, 15 hours of which must be chosen from a required list of courses. These 15 hours include an introductory course in biological anthropology, Anthr. 101Q; a course in cultural or general anthropology, 102Q or 124Q; a methods and theory course, 647; an area course (choose from Anthr. 303Q, 307, 310, 306, 511, 515Q, 516Q); and one course in archaeology (choose from Anthr. 305Q, 313, 335, 508Q, 538, 611, or 613). An additional 15 semester hours of anthropology electives can be distributed across the catalog listings for anthropology to match the student's interest in a particular sub-discipline(s).

A maximum of 6 semester hours of certain courses in related departments may be counted toward an anthropology major if they meet the particular needs of students and are approved by the anthropology department.

Minor. A minor consists of 15 semester hours in anthropology (including at least 6 hours of upper-division work) chosen in consultation with the student's anthropology advisor. Students minoring in anthropology are encouraged to take Anthr. 101Q, either 102Q or 124Q, and 126G.

Field Major. A field major in anthropology enables undergraduate students to combine studies from three separate departments. The anthropology field major consists of 18 credit hours in anthropology, including at least 6 hours of upper-division work and 9 hours of related credit in each of two departments other than anthropology. Students seeking a field major in anthropology must take Anthr. 101Q, either 102Q or 124Q, and 126G. All remaining anthropology and non-anthropology hours for the field major are chosen in consultation with the student's anthropology advisor.

Lower-Division Courses
>100G. Anthropology of Modern Life. (3). General education introductory course. Introduces anthropological perspectives on the behavior and institutions of contemporary people, emphasizing the mass culture of the United States.

>101Q. Biological Anthropology. (3). General education introductory course. 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 bio-
logical 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). General education introductory course. The meaning of culture, its significance for human beings and its diverse forms among peoples of the world, past and present.

>103. Introduction to Archaeology. (3). General education introductory course. Introduces the philosophy, theory, tools, and techniques of the practicing archaeologist. Illustrates the role or archaeology in understanding cultural change through time, and explains how archaeological method draws on natural science and humanities to demonstrate how we learn about past cultures from the material they left behind.

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: Anth. 101Q.

107. Cultural Anthropology Laboratory. (1). Students participate in organizing, collecting, and analyzing data derived from cultural anthropological investigations. Prerequisite or corequisite: Anth. 102Q.

150. Workshop in Anthropology. (1-3). Provides specialized instruction using a variable format in an anthropologically relevant subject. Repeatable for credit.

165. The Blues: Art and Culture. (3). Cross-listed as Mus. C. 165. The blues is a uniquely American musical form that has made an immense contribution to world popular culture. The history of the blues is also the history of Black America from the late 19th century to the present day. Focuses on major blues artists, both rural and urban, to trace the history and development of the blues as a folk art form that expresses both the joy and the despair of the people who created it.

200. Intercultural Relations. (3). General education further studies course. 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.

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). General education further studies course. Comparative case studies of the cultures of existing societies of varying types, including nonliterate peoples, Third World nations, and modern industrialized countries.

>305Q. World Archaeology. (3). General education further studies course. Introduces the basic concepts, methods, techniques, and theories 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). General education further studies course. A description and analysis of the culture areas of Africa south of the Sahara Desert from ethnohistoric and ethnographic sources.

>312. Asia Pacific Cultures. (3). General education further studies course. 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). General education further studies course. 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. Emphasizes China (through the Han Dynasty), southeast Asia and Australia/New Guinea. Includes recent archaeological finds of the Peoples Republic of China.

>318. Psychological Anthropology. (3). General education further studies course. The relationship of individual psychology (personality, emotion, cognition), both normal and abnormal, to group membership and cultural context.

>327. Magic, Witchcraft, and Religion. (3). General education further studies course. 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 to the larger patterns of cultural beliefs and behaviors.

>335. Archaeology of North America. (3). General education further studies course. A survey of the prehistoric cultures of North America north of Mexico from the earliest peopling of the continent to the time of European colonization.

>344. Ecological Anthropology. (3). General education further studies course. Investigates the relationships of people both to their physical and sociocultural environments, including the effects of these relationships on economic activities, social organizations, and beliefs and behaviors emphasizing 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. Emphasizes seminal events, theory, and contributions that shape the modern discipline of anthropology. Prerequisites: Anthr. 100G, 101 or 102 or 104.

>356. Human Variability and Adaptation. (3). General education further studies course. An critical examination of the biological aspects of contemporary human variation, stressing human adaptations. Prerequisite: Anthr. 101Q or Biol. 262Q or equivalent.

>361. Law, Politics, and Society. (3). General education further studies course. Studies legal and political systems in non-Western societies. Includes the origin of the state, precolonial law and politics, the impact of colonialism, and problems in state building.

>388. Cognitive Anthropology. (3). General education further studies course. Concentrates on a transcultural comparison of the cognitive constructions of life-space, social reality, and worldview in foraging, agricultural, and industrial societies focusing on the socioculturally conditioned aspects of intellectual functioning and perceptually based behavior.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historical places of interest. Utilizes the archaeological, biological, linguistic, and sociocultural perspectives to better understand overseas cultures. Prerequisite: departmental consent.


498. Readings in Anthropology. (2-3). Repeatable up to six hours. Special problems in anthropology. Prerequisite: 12 hours of anthropology.

Courses for Graduate/Undergraduate Credit

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. 305Q.

>506. Peoples of the Pacific. (3). General education further studies course. A survey of the races, languages and cultures of nonliterate peoples of Polynesia, Micronesia and Indonesia.

>508Q. Ancient Civilizations of the Americas. (3). General education further studies course. A cultural survey of the Aztec, Maya and Inca. Prerequisite: instructor's consent.

>511. The Indians of North America. (3). General education further studies course. A survey of tribal societies and native confederations north of Mexico from the protohistoric through the historic period. Prerequisite: Anthr. 102Q.


>515Q. China. (3). General education further studies course. 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.

S516Q: Japan: People and Culture. (3). General education further studies course. An intro-
duction to the culture of Japan including its history and prehistory, aspects of traditional culture and 20th century Japan, its economy, politics and social organization.

S519. Applying Anthropology. (3). General education further studies course. The applica-
tion of anthropological knowledge in the solution of social problems in industry, public health and public administration. Prerequisite: Anthr. 102Q.

S522Q: Art and Culture. (3). General education further studies course. A survey of the visual and performing arts of nonwestern peoples with special attention to their relationships in the cultural setting. Prerequisite: Anthr. 102Q.

S526. Social Organization. (3). General education further studies course. A survey of the social organization among nonindustrialized peoples throughout the world. Deals with family systems, kinship, residence patterns and lineage, clans and tribal organizations. Prerequisite: six hours of anthropology.

S528. Medical Anthropology. (3). General education further studies course. 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 nursing or 3 hours of anthropology or instructor's consent.

S538. Early Man in the New World. (3). A critical examination of facts and theories concerning early man in the New World from the peo-
plmg 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. 305Q.

S540. The Indians of the United States: Conquest and Survival. (3). Anthropological inquiry into four centuries of cultural contact, conflict, resistance and renaissance. Prerequisite: Anthr. 102Q or instructor's consent.

S542. Women in Other Cultures. (3). General education further studies course. 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, econom-
ic, 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.

S555. Paleanthropology and Human Paleontology. (3). General education further studies course. A detailed examination of human evo-
olutionary history as evidenced by fossil remains and a survey of various interpretive explanations of the fossil record. Prerequisite: Anthr. 10IQ or Biol. 203Q or equivalent.

S577. Human Osteology. (3). Deals with human skeletal and dental materials with applications to both physical anthropology and archaeology. Lecture and extensive laboratory sessions; includes bone and tooth identifications, measurement and analysis and skeletal preservation and reconstruction. Individual projects are undertaken. Prerequisite: Anthr. 10IQ or equivalent.


S597. Topics in Anthropology. (3). Detailed study of topics in anthropological with particular emphasis being established according to the expertise of the various instructors.

S600. Forensic Anthropology. (3). Cross-listed as CJ 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. Prerequisite: Anthr. 10IQ or equivalent.

S602. Archaeological Laboratory Analysis. (1-3). Students analyze archaeological materials, including ceramic, lithic, faunal and vegetal remains according to accepted methods. Students learn to apply standard methods of identification and modes of interpretation to the materials to produce an acceptable archaeological report. Prerequisites: Anthr. 502 and instructor's consent.

S606. Museum Methods. (3). An introduction to museum techniques relating to the acquisition of collections and related procedures, such as accessioning, cataloguing, documentation, presentation and storage. Emphasizes current trends in museological philosophy concerning purpose, function and relevance of museums, as well as career opportunities. Prerequisite: instructor's consent.

S607. Museum Exhibition. (3). Contemporary philosophy of exhibition design and the application of recent concepts to the planning and installation of an exhibit. Prerequisite: Anthr. 606 or instructor's consent.

S609. Biological Anthropology Laboratory Analysis. (1-3). Analyze biological anthropology materials including human and nonhuman skeletal material of both forensic contemporary or prehistoric origin according to standardized methods for recording and data collecting in biological anthropology. Learn methods of identification, analysis, and interpretation and prepare a standard technical report. Prerequisites: Anthr. 10IQ, 106, 359 or 557.

S611. Southwestern Archaeology. (3). General education further studies course. A compre-
prehensive survey of the prehistoric, historic and living cultures of the American Southwest par-
ticularly emphasizing the cultural continuities and changes covering 11,000 years. Prerequisites: one introductory course in anthropology or departmental consent.

S612. Indians of the Great Plains. (3). An investiga-
tion of the cultural dynamics of the Great Plains area from the protohistoric period to the present. Prerequisites: six hours of anthropology and departmental consent.

S613. Archaeology of the Great Plains. (3). The archaeology of the Great Plains area from earli-
est evidence to the historic period. Prerequisite: one introductory course in anthropology or departmental consent.

S647. Theories of Culture. (3). A survey of the main theoretical movements in cultural anthro-
pology, including both historical and contemporary schools of thought. Prerequisite: six hours of anthropology.

S651. 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.


S693. 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.

S736. Advanced Studies in Anthropology and Ethnohistory. (3). Special area and theory problems in a historical approach to culture. Prerequisites: graduate standing and 6 hours of anthropology.

S746. Advanced Studies in Cultural Anthropology. (3). Entails an in-depth coverage of selected topics in cultural anthropology, including social structure, economic and political organization, religion, personality, arts and knowledge systems, and current research methods. Prerequisite: graduate standing and 6 hours of anthropology.

S750. Workshop. (1-4). Short-term courses focusing on anthropological problems. Prerequisite: Instructor's consent.

S756. Advanced Studies in Biological Anthropology. (3). In-depth coverage of selected topics in biological anthropology, including the history of evolutionary thought, human variation, growth and development, population dynamics, paleoanthropology, and primatology. Focuses on current issues, method, and theory in biological anthropology. Prerequisite: graduate standing and 6 hours of anthropol-
ography.
gy (must include Anthr. 101Q or instructor's consent).

781. Cooperative Education. (1-4). Provides practical experience that complements the student's academic program. Requires consultation with and approval by an appropriate faculty sponsor. Offered Cr/NC only. Prerequisite: six hours of American studies course work or equivalent and instructor's consent.

798. 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.

Courses for Graduate Students Only

801. 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.

802. Methods in Anthropology. (2-3). Develops abilities in the conception and investigation of anthropological problems and interview and observation techniques, as well as more specialized methods such as photography, mapping and tape recording. Repeatable up to six hours. Prerequisite: departmental consent.

820. Seminar in Biological Anthropology. (3). Analysis and discussion of ancient fossil, prehistoric, historic, and recent modern biological variation in an anthropological perspective. Can include advanced studies of human variation and skeletal biology, demography and population genetics in anthropology, advanced studies in paleoanthropology and issues in the debate over micro and macro levels of evolution, and quantitative applications to the study of human variation in anthropological contexts. Repeatable up to six hours. Prerequisite: departmental consent.

837. Seminar in Cultural Anthropology. (3). Intensive study of advanced theoretical questions in cultural anthropology. Repeatable up to six hours. Prerequisite: five hours of anthropology.

847. 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.

848. 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.

870. Independent Reading. (2-3). Repeatable up to six hours. Prerequisite: departmental consent.

871-872. Internship in Anthropology. (2-2). Students following applied or multidisciplinary tracks, such as museology, international business education, or health professions receive professional work experience in their field through an internship at a designated work place approved by departmental committee. Course need not require a tangible end product (e.g., paper). May be repeated, but limited to a total of 4 credit hours. Prerequisite: committee consent.

873-874. Advanced Project in Anthropology. (2-2). In consultation with their major advisor and committee, students design a project (e.g., a museum exhibit, a written plan for an international business venture, a lesson plan for an anthropology unit in schools) that applies anthropological method and theory to the specific needs of an institution, group, or population. Requires a tangible end product (e.g., paper, thesis, and/or visual production or exhibit). May be repeated, but limited to a total of 4 credit hours. Prerequisite: committee consent.

875-876. Thesis. (2-2).

Biological Sciences

The biological sciences department offers a broad and flexible curriculum leading to the Bachelor of Arts (BA), the Bachelor of Science (BS), the field major in biochemistry (BS), and the bachelor degree programs (BA and BS) to teach in secondary education. Students interested in an interdisciplinary program with a biological focus are encouraged to consider the Fairmount College of Liberal Arts and Sciences field major program (BA or BS) program. All students who intend to pursue one of the programs within the Department of Biological Sciences should contact the department as early in their educational careers as possible for assignment to a faculty academic advisor.

Major. A major in biological sciences leading to the Bachelor of Arts (BA) requires a minimum of 30 semester hours of biological sciences course work; up to 40 semester hours may be taken for credit. A major in biological sciences leading to the Bachelor of Science (BS) degree requires a minimum of 40 semester hours of biological science course work; up to 50 semester hours may be taken for credit. Candidates for either degree must complete Biol. 203Q, 204, 418, 419, 420, 524, one four-course hour in Botany, and one of the following: Biol. 530, 560, 575, or 578. Also required are Chem. 111Q, 112Q, 523, 531, 532, 662, 665, 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 advisor or departmental offices for approved courses).

Field Major (BA). Students interested in environmental biology or related areas of environmental science should consult with a departmental advisor early to design a curriculum that will satisfy Fairmount College of Liberal Arts and Sciences field major requirements and will include course work with a broad focus on environmental biology.

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 advisor. The Bachelor of Arts (BA) in Biological Sciences: Secondary Education requires the completion of Biol. 203Q, 204, 330, 418, 419, 420, 524, one four-course hour in Botany, and one of the following: Biol. 530, 560, 575, or 578. Also required are Chem. 111Q, 112Q, 523, 531, and 532; Phys. 213Q, Geol. 302Q; Math 123; CI 770P or 770M; CI 772M or 772P or 780S; 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)

**Lower-Division Courses**

>104Q. Introducing Biology. (4). 3R; 2L. General education introductory course. A teleclass introducing basic concepts of biological science including characteristics of living organisms, structure and function of organisms with emphasis on human beings, mechanisms of inheritance, and interactions of humans with living and nonliving components of various environments in the living world. The laboratory component includes experiments and exercises to reinforce lecture presentations as well as provide elaboration of some subject areas. Recommended for the non-science major. Only one of the following may be taken for credit: Biol. 104Q, 105G (no longer offered), 106G and/or 107G.

>106G. The Human Organism. (3). General education introductory course. Introduces the non-science major to certain biological principles as they relate to the human organism, provides biological information and understanding of subjects which are relevant to the student's own well-being and role as a world citizen, and increases awareness of the human place in the biosphere. Concurrent or subsequent enrollment in Biol. 107G is recommended for students seeking general education credit for a natural science laboratory experience. Credit for this course may not be applied toward the requirements for a major or minor in biological sciences. Only one of the following may be taken for credit: Biol. 104Q, 105G, 106G and/or 107G. Students wishing to repeat Biol. 105G (no longer offered) should enroll in Biol 106G and 107G.

>107G. The Human Organism Laboratory. (1). 2L. General education introductory course. For the non-science major. Supplements and reinforces the material covered in Biol. 106G with a laboratory experience. Uses a hands-on approach and covers topics relevant to the students and their role in the biosphere. Includes cell structure, human organ systems, the role of microorganisms in our environment, nutrition, metabolism, genetics, and ecology. Requires no animal dissection. Credit for this course may not be applied toward the requirements for a major or minor in biological sciences. Only one of the following may be taken for credit: Biol. 104Q, 105G, 106G and/or 107G. Students wishing to repeat Biol. 105G (no longer offered) should enroll in Biol 106G and 107G.

>203Q. Introduction to Organismal Biology. (4). 3R; 2L. General education introductory course. Introduces the fundamental concepts of biology as they apply to multicellular organisms. Includes the advantages and problems of a multicellular habit; homeostatic systems involving nervous and hormonal control; nutrient procurement, circulation, use, and cycling in plants, animals, and communities; and sexual and sexual reproduction and inheritance in plants, animals, and communities. The laboratory includes a survey of representatives from the five kingdoms and stresses evolutionary trends in the plant and animal kingdom. Prerequisite: concurrent enrollment in Chem. 111Q is recommended.

>220. Introduction to Microbiology. (4). 3R; 2L. For students in allied health fields. Introduces eukaryotic and prokaryotic microorganisms and viruses and develops an understanding of microbial growth, including the use of antimicrobial, disinfectants, and antibiotics; DNA as the genetic material including DNA replication, protein synthesis, gene regulation, mutation, and gene exchange in bacteria; applied and environmental microbiology including water and sewage treatment and food microbiology; resistance to infection, basic mechanisms of pathogenesis, and selected microbial diseases. The laboratory component reinforces fundamental concepts learned in lecture and helps the student gain an understanding of and develop competence in basic microbial techniques, including the safe handling of microorganisms. Credit earned in this course may not be applied toward the requirements for a major or minor in biological sciences. Students majoring in microbiology may enroll in this course. Prerequisite: Chem. 101G or 103Q or 111Q.

>310. Human Reproduction: Issues and Perspectives. (3). General education issues and perspectives course. Presents a comprehensive survey of the many biological aspects of reproduction. Covers structure and function of the reproductive system, as well as information on in vitro fertilization, fertility testing, contraception, population problems, AIDS, cancer, reproductive issues, ethical problems, and other pertinent topics. Prerequisite: any one of the following: Biol. 104Q, 105G, 106G, 203Q, or 223.

>370Q. Introductory Environmental Science. (3). General education issues and perspectives course. Examines the relationship of the earth's human populations to resource use/depletion and to the impact of human activities on the environment. Introduces and uses basic concepts relating to energy, populations, and ecosystems as a basis for understanding environmental problems on the local, regional, national, and international levels.

**Courses for Graduate/Undergraduate Credit**

>509G. Foundations of Human Heredity. (3). General education further studies course. Introduction to the mechanisms and sociological significances of developmental, transmission, and population genetics of humans. Attention is given to inborn errors of metabolism and development and the role of genetic counseling and genetic engineering in their management. For students majoring outside of the natural sciences and does not carry credit toward a biological sciences major. Credit toward graduate credit produces a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: junior standing.

>518Q. Biology of Aging. (3). Cross-listed as Ger. 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 biological sciences that satisfies general education requirements.

**Major Courses**

(Used to satisfy the requirements for the major)

**Lower-Division Courses**

>150. Biology Workshop. (1-3).

>203Q. Introduction to Organismal Biology. (4). 3R; 3L. General education introductory course. Introduces the fundamental concepts of biology as they apply to multicellular organisms. Includes the advantages and problems of a multicellular habit; homeostatic systems involving nervous and hormonal control; nutrient procurement, circulation, use, and cycling in plants, animals, and communities; and sexual and sexual reproduction and inheritance in plants, animals, and communities. The laboratory includes a survey of representatives from the five kingdoms and stresses evolutionary trends in the plant and animal kingdom. Prerequisite: concurrent enrollment in Chem. 111Q is recommended.

>204. Introduction to Cellular Biology. (4). 3R; 3L. Continuation of Biol. 203Q. Presents the principles of cellular biology and fully develops the cellular and molecular bases of phenomena discussed in Biol. 203Q. Includes cellular structure and function relating to the concept of cells as organisms; the chemical basis of inheritance; nutrient procurement, use, and cycling in the cell via aerobic and anaerobic respiratory pathways and photosynthesis; regulation of cellular activities by protein synthesis, protein activity, and membrane mechanisms; and selected topics in cellular biology, such as the immune defense system, origin of eukaryotic organelles, abiotic origin of life, and the role of prokaroytes in matter cycling in the biosphere. The laboratory demonstrates the principles of cell biology and develops the student's skill in the experimental method and the communication of scientific information. Prerequisites: Biol. 203Q and Chem. 111Q.

**Upper-Division Courses**

>305Q. Introductory Plant Physiology. (5). Introduces the physiological mechanisms which control higher plant functions. Includes a review of basic physiological principles; gas exchange; water absorption, transport and loss; organic nutrition and the processes of photosynthesis and respiration, including transpiration and respiration of plants, transport of organic nutrients; mineral assimilation and nutrition; and factors affecting the survival of higher plants. Emphasizes structure as it relates to function and the physical/chemical mechanisms involved in...
maintenance physiology. The laboratory emphasizes experimental techniques and application to investigations of plant physiological phenomena discussed in the lecture and the development of scientific writing skills. Students who have completed Biol. 505 and/or 506 (no longer offered) will not receive major credit for this course. Prerequisites: Biol. 204 and Chem. 112Q.

330. General Microbiology. (5). 3R; 2L. Introduces the structure, function, systematics, ecology, and population dynamics of microorganisms emphasizing prokaryotes. Prerequisites: Biol. 204 and Chem. 112Q.

418. General Ecology. (4). 3R; 3L. Principles underlying the interrelationships of living organisms and their environment from the biosphere to the population level of organization. Some laboratory exercises and class projects conducted at local field sites. Prerequisite: Biol. 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 Biol. 584 may not receive credit for prior enrollment in that course and subsequent enrollment in this course. Students seeking to repeat Biol. 584 may enroll in this course, subject to the credit limitations indicated. Prerequisite: Biol. 204.

420. Molecular Cell Biology. (4). 3R; 2L. 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 development, and cancer, and cellular mechanisms of development. Reviews and demonstrates current techniques and experimental approaches for studying cells. Students who have completed Biol. 500 may not receive credit for prior enrollment in that course and subsequent enrollment in this course. Students seeking to repeat Biol. 500 may enroll in this course. Prerequisites: Biol. 204 and Chem. 531.

471. Wildlife Management. (4). 3R; 3L. Presents both theoretical and practical principles of wildlife management. Includes wildlife legislation, ecological rules applicable to wildlife populations, procedures for habitat analysis and inventory, and wildlife restoration. Conduct laboratory exercises and class projects at local field sites. Emphasizes habitat analysis and restoration during the field portion. Prerequisites: Biol. 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 study or the Cooperative Education program office. No more than four credit hours earned in Biol. 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 Cr/NCr only.

497. Biology Colloquium. (1). S/U grade only. Research seminars presented by graduate students, faculty, and visiting researchers. Requires a written term paper on one of the presented topics. Repeatable once for credit. Prerequisites: two of the following—Biol. 418, 419, 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 Biol. 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 Biol. 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; 4L. 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: Biol. 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: Biol. 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 must produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 204, 527 also is recommended.

525. Introduction to Ecotoxicology. (4). 2R; 2L. An overview of concepts and methodology for conducting tests in the field of ecotoxicology. Examines tests at the molecular, individual, and population level. Covers basic ecological assessments, such as Index of Biological Integrity, Index of Biological Well-Being, and Rapid Bioassessment Protocols; and toxicological protocols like acute and chronic bioassays, biomarkers, and modeling techniques using Quantitative Structure Activity Relationships. Recommended for students interested in learning about the applied methodology used in the rapidly evolving field of ecotoxicology. Prerequisites: Biol. 418 or equivalent and Chem. 531 or equivalent, or instructor's permission.

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. Prerequisite: Biol. 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: Biol. 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: Biol. 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 developer proficiency in a specific taxon by performing an individual systematics project. Prerequisite: Biol. 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 on library or research on a topic in mammalian physiology chosen in consultation with the instructor. Prerequisites: Biol. 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 Biol. 534.

540. Developmental Biology. (4). 2R; 4L. Developmental processes in animals emphasizing vertebrates. Centered on the cell interactions controlling differentiation and morphogenesis. Students earning graduate credit complete additional assignments chosen in consultation with the instructor. Prerequisite: Biol. 204. Biol. 420 recommended.

553. Ecological Risk Assessment. (4). Risk assessment is the process of assigning magnitudes and probabilities to the adverse effects of human activities or natural catastrophes. It
involves global climate change, habitat loss, acid rain deposition, reduced biological diversity, and the ecological impacts of pesticides and toxic chemicals. It uses measurements, testing, and mathematical models to quantify the relationship between the changing environment and the effects. Course is an overview of the basic framework for conducting an Ecological Risk Assessment, and a discussion of individual case studies involving several important environmental issues. An introductory class for students interested in assessing the effects of various stressors on environmental health. Prerequisites: Biol. 418 or equivalent and Chem. 531 or equivalent, or instructor's permission.

560. Plant Ecology. (4). 2R; 6L. Principles and patterns of plant distribution and of adaptation of plants to particular habitats. Emphasizes the experimental approach to plant ecology. Field trips are an integral part of the laboratory. Prerequisite: Biol. 418 or instructor's consent.

572. Computer Methods in Biology. (3). Includes mathematical modeling of biological systems, tools for recording and retrieving experimental results, computer-aided instruction, laboratory exercises, software for scientific publication including digital photo-documentation and reference managers for bibliographies. Students select a biology topic of interest, study non-statistical and computer approaches previously used, and develop their own approach. Half the course is lectures and demonstrations and half is individual student projects. Graduate students are expected to have had prior experience with the primary literature and be prepared to execute a more sophisticated library research project. Prerequisite: one of the following: Biol. 418, 419, 420, or instructor's consent.

573. Statistical Applications in Biology. (3). Supplements Stat. 570 by providing experience with practical applications of statistical theory to biological data. Includes computations on data derived from the primary literature and independently designed research projects. Emphasizes the design of experiments to answer specific hypotheses, the treatment of non-normally distributed data sets and nonhomogeneous data sets, and annotation of published papers. May be repeated once for credit. Prerequisite: Stat. 370.

575. Field Ecology. (3). 9L. Techniques for analysis of systems consisting of living organisms and their environment. Field trips required. Students earning graduate credit complete an additional statistical analysis assignment involving the use of the computing facilities. Prerequisites: Stat. 370.

576. Reproductive Biology. (3). Covers the basic organization and function of vertebrate reproductive systems. Includes current concepts and controversies in research from the molecular to the population level. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 420 or instructor's consent.

582. Behavioral Ecology. (3). A study of the ecological basis of behavior, stressing the underlying evolutionary and ecological mechanisms. Includes morphological, ecological, and kin selection, kin recognition mechanisms, sexual behavior, sexual selection and mate choice, mating systems, and reproductive strategies from the perspective of natural selection. Students earning graduate credit will be expected to write a term paper based on the technical literature and to present this in a class seminar. Prerequisite: Biol. 418.

584. Topics in Zoology. (3-4). See Biol. 610. Prerequisite: Biol. 204 and instructor's consent.

585. Pathogenic Microbiology. (3). 2R; 4L. An introduction to the important pathogenic micro-organisms and their relationships to health and disease in humans. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 330.

586. Topics in Microbiology. (2-4). See Biol. 610. Prerequisite: Biol. 330 and instructor's consent.

588. Aquatic Ecology. (3). 9L. Introduction to the biological and physical processes that operate in lakes, streams, and estuaries. Requires assigned readings, individual projects, and field trips. Students earning graduate credit must complete an independent project on comparative community structure and report the results as a technical paper. Prerequisite: Biol. 418 or instructor's consent.

590. Immunobiology. (3). The nature of antigens and antibodies and their interactions. Includes cellular and humoral aspects of immunologic phenomena. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 204 and Chem. 531.

591. Immunobiology Laboratory. (3). 6L. Methods of immunization and techniques for qualitative and quantitative detection of antibody production and antigen-antibody reactions. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites or corequisites: Biol. 590, Chem. 531 or instructor's consent.

592. Environmental Science I. (4). (2R; 3L). Cross-listed as Geol. 702 and Chem. 702. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes chemical cycling, atmospheric chemistry, aquatic chemistry, and phase interactions. The laboratory portion addresses local environmental problems from a risk assessment perspective. BioL 702 and 703 (or equivalent) are required for all graduate students in the master's of environmental science program. Prerequisite: acceptance in the master's of environmental science program or instructor's consent.

593. Environmental Science II. (4). (2R; 3L). Cross-listed as Geol. 703 and Chem. 703. Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes environmental chemical analysis, environmental toxicology, aquatic microbial biochemistry, environmental biochemistry, water treatment, photochemical smog, and hazardous waste chemistry. The laboratory portion addresses local environmental problems from a risk assessment perspective. BioL 702 and 703 (or equivalent) are required for all graduate students in the master's of environmental science program. Prerequisite: acceptance in the master's of environmental science program or instructor's consent.

594. Environmental Science Colloquium. (1). Cross-listed as Geol. 704 and Chem. 704. Students in the master's of environmental science program are required to enroll each semester (maximum 4 credit hours). Includes presentations by guest speakers and required readings for class discussion. May also include student involvement in environmentally related community groups and projects.

596. Environmental Science Internship. (3-6). Cross-listed as Geol. 706 and Chem. 706. Students in the master's of environmental science program may gain interdisciplinary skills in environmental science by participating in applied and/or basic research internship projects with local business, industry, or government agencies. Internship option is an alternative to thesis research for degree requirements. Enrollment in internship projects requires an approved proposal. Completion of an internship evaluation requires a formal oral presentation of the internship activity and a written report. Prerequisites: Biol. 702 and 703 or equivalent.
710. Glycobiology. (3). Introduction to glyco- protein biosynthesis, structures and function. Covers the various roles of carbohydrates in modifying protein structure and function. Students earning graduate credit prepare a term paper based on the technical literature on a topic chosen in consultation with the Instructor. Prerequisite: Biol 420.

720. Neurobiology. (3). Basic course in contemporary neurobiology emphasizing learning and memory. Exploration of the current research literature covering all levels of organization from complex behavior to brain information processing pathways, neuronal cell biology, and molecular biology. Each student will choose a topic, complete a written report, and give an oral presentation to the class. Graduate students will do more reading in the primary neurobiology literature. Prerequisites: Biol 420 and 534 or equivalents and instructor's permission.

737. Aquatic Toxicology. (4). 2R; 2L. The qualitative and quantitative study of the fate and effects of toxic agents in the aquatic environment. Class examines the concentrations or quantities of chemicals that occur in the aquatic environment, and includes a detailed study of the transport, distribution, transformation, and ultimate fate of various environmentally important chemicals. Class is for undergraduate or graduate students interested in advanced training in toxicology. Prerequisite: Biol. 525 or equivalent and Chem. 531 or equivalent, or instructor's permission.

740. Research Methods. (3). 1R; 3L. A lecture/laboratory course 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. Introduces 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.

767. Mechanisms of Hormone Action. (3). The mechanism of action of several hormones is described and used to illustrate the major intracellular signal transduction pathways. Includes gonadotropin-releasing hormone, the glycoprotein hormones, luteinizing hormone, follicle-stimulating hormone, chorionic gonadotropin, thyroid-stimulating hormone, steroid hormones, thyroid hormone, activin/ inhibin, proopiomelanocortin, insulin, and growth hormone. Mostly lectures covering signal transduction pathways. Students will write brief summaries of recent research papers related to the current week's lecture topics. Each student will make an oral presentation of a research paper in journal club format. Students earning graduate credit will write a term paper describing in detail a hormone not described in class and its mechanism of action. Prerequisites: Biol 420 and Chem. 662 or their equivalents, plus either Biol 534 or 526 or their equivalents, and instructor's permission.

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 covariation. 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 physicochemical 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). Contemporary problems in immunologic research. Includes lectures, assigned readings and reports. Students earning graduate credit produce a term paper based on the technical literature on a topic chosen in consultation with instructor. Prerequisites: Biol 590 and instructor's consent.

797. Departmental Seminar. (1). Forum for the weekly presentation and discussion of the ongoing research projects performed by departmental faculty, graduate students, and guest scientists from outside departments and institutions. All MS degree-bound graduate students are required to attend the seminar each semester and must enroll for credit during the two semesters in which they give presentations that will be the basis for their grade. One of these presentations may be their thesis defense. Prerequisite: acceptance into MS program.

798. Biology Seminar. (2). Reviews of current research in biological sciences. Repeatable once for credit.

Courses for Graduate Students Only

890. Research. (2-5). S/U grade only. Students performing research on their thesis projects should enroll for an appropriate number of hours. An oral presentation of the research results must be presented to the student's thesis committee before a grade is assigned.

891. Thesis. (2). S/U 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 (BS) in chemistry, Bachelor of Science (BS) in chemical science, 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. 505, 514, 524, 532, 545, 546, 547, 613, 615, two credit hours of 690, and their necessary prerequisites, including Math. 344 and Phys. 313, 314, 315, and 316 or their equivalents. An additional seven credit hours of professional elective courses must be taken. Three credit hours of these courses must be selected from chemistry courses above 600 (701 is excluded). Courses that will satisfy the professional elective requirement are: (a) Chem. 602, 603, 605, 662, 663, 664, 666, 669, and one additional credit hour of 690; (b) mathematics courses with Math. 344 prerequisite or Math. 555; (c) physics courses with Phys. 314Q prerequisite; (d) one academic year of German or French; and (e) other courses as approved by the Undergraduate Affairs 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 advisor for details.

Bachelor of Science in Chemical Science

Students in premedical, predental, pre-veterinary, prepharmacy, preoptometry, or other preprofessional programs may desire this option for which the following courses are required: Chem. 514, 524, 532, and 663 and their necessary prerequisites: Math. 144 or 242Q and one year sequence of physics courses above 200; six additional credit hours of chemistry courses numbered above 500. (Chem. 605 is recommended) and ten credit hours consisting 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
physic (Phys. 313, 314, 315, and 316) 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. 532 is required) or by substituting Chem. 662 or 663 for Chem. 546. This degree requires foreign language (5 hours beyond 111-112 in one language or equivalent to 112 in two languages).

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 departments of biological sciences and chemistry participate jointly in this program. Students selecting this major should seek the advice of one of the departmental chairpersons as early as possible. The required courses are: Biol. 203Q, 204, 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 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. Buess 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: Accr. 210 and 220; Econ. 201Q and 202Q; B. Law 435; Fin. 340; Mgmt. 360; and Mkt. 300, 405, and 608. In addition, approximately 30 hours of chemistry and mathematics are required: Chem. 111Q, 112Q, 523, 561 or 662, 531, 532, and 603; and Math. 144 or 242Q.

Students selecting this option should contact the chairperson of the Department of Chemistry as early as possible for advice.

Minor. The chemistry minor consists of at least 14 hours of chemistry courses and must include at least four hours from Chem. 514, 523, 531, 533, 534, 545, and 546. Credit is not allowed for both Chem. 533/534 and Chem. 531. A 2.000 GPA in chemistry 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. Students should consult advisors.

Minimum Requirements in Chemistry Programs Bachelor of Science

Course Hrs.
Chem. 111Q, 112Q 10
Chem. 505 1
Chem. 514 3
Chem. 531, 532 10
Chem. 523, 524 8
Chem. 545, 546 6
Chem. 547 2
Chem. 549 2
Chem. 561, 569 2
Chem. 600-790 3
Chem. 613 5
Chem. 615 2
Chem. 660-790 3
Phys. 313Q, 314Q, 315Q, 316Q 10
Math. 112, 242Q, 243, 344 18
Professional elective 4

*Part of the required seven hours of professional elective courses (see description above).

Typical Course Sequence

Freshman

First semester Hrs.
Chem. 111Q, General Chemistry 5
Math. 112, Precalculus Mathematics* 5
Engl. 101, College English I 3
Comm. 111, Public Speaking 3

Second semester

Hrs.
Chem. 112Q, General and Inorganic Chemistry 5
Math. 242Q, Calculus I 5
Engl. 102, College English II 3
Hist. 131 or 132, History of the U.S. 3

Sophomore

First semester Hrs.
Chem. 531, Organic Chemistry* 5
Math. 243, Calculus II 5
Phys. 313Q, University Physics I 4
Engl. 220Q, 230G, 224Q, or other, English Literature 3

Second semester

Hrs.
Chem. 532, Organic Chemistry II 5
Phys. 314Q, University Physics II 4
Phys. 315Q, University Physics Lab I 1
Math. 344, Calculus III 3
A general education introductory course in social sciences 3

Junior

First semester Hrs.
Chem. 514, Inorganic Chemistry 3
Chem. 523, Analytical Chemistry 4
Phys. 316Q, University Physics Lab II 1
A general education introductory course in fine arts 3
A general education introductory course in a second social sciences department 3

Second semester Hrs.
Chem. 545, Physical Chemistry* 3
Chem. 505, Chemical Literature 1
Chem. 524, Instrumental Methods of Chemical Analysis 4
Biol. 106, Human Organism 3
A general education further studies or issues and perspectives course in history, English, or fine arts 3

*Math. 344 is a prerequisite.

Senior

First semester Hrs.
Chem. 546, Physical Chemistry 3
Chem. 547, Physical Chemistry Laboratory 2
Chemistry major electives 3-4
Chem. 690, Independent Study and Research 2
A general education further studies or issues and perspectives course in social sciences 3
Electives 3

Second semester Hrs.
Chem. 615, Advanced Inorganic Chemistry 3
Chem. 613, Inorganic Chemistry Laboratory 2
Chemistry major electives 3-4
Electives 6

Bachelor of Arts

Course Hrs.
Chem. 111Q, 112Q 10
Chem. 531, 532 10
Chem. 523, 524** 8
Chem. 545, 546** 6
Chem. 547 2
Physics (one year) 10
Math. 112, 242Q, 243, 344 18

**Combinations of Chem 662, 663, 664 and 665 may be substituted for Chem. 524 or 546 (see description above).

Bachelor of Science in Chemical Science

Course Hrs.
Chem. 111Q, 112Q 10
Chem. 514 3
Biochemistry Field Major

Course | Hrs.
--- | ---
Chem. 111Q, 112Q | 10
Chem. 523 | 10
Chem. 531, 532 | 10
Chem. 662, 663 | 6
Chem. 664 | 3
Chem. (Biol.) 666 | 3
Chem. (Biol.) 669 | 3
Biol. 203Q, 204 | 10
Biol. 419 | 4
Biol. 420 | 4
Math. 112 or 111, 123 | 5-6
Phys. 213Q, 214Q | 10
Biochemistry electives | 21

Chemistry/Business Field Major

Course | Hrs.
--- | ---
Chem. 111Q, 112Q | 10
Chem. 523 | 4
Chem. 531, 532 | 10
Chem. 561 or 662 | 3
Chem. 603 | 3
Math. 144 or 242Q | 3-5
Acct. 210 and 220 | 6
Econ. 201Q and 202Q | 6
Mkt. 300, 405, 608 | 9
Fin. 340 | 3
Mgmt. 360 | 3
B. Law 435 | 3

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

>101G. The Science of Chemistry. (3). General education introductory course. Teaches the basic concepts of chemistry that will aid in understanding the physical world. No attempt to teach basic computational or laboratory skills; instead emphasizes such concepts as atomic and molecular theory, energy, structures, and theories regarding why reactions occur.

>103Q. General Chemistry. (5). 3R; 4L. Lab fee. General education introductory course. A survey of inorganic, organic, nuclear and biochemical chemistry. Recommended for the student who plans to take only one course in chemistry. Students who expect to major in the natural sciences should take the Chem. 111Q-112Q sequence. Credit is not granted for both Chem. 103Q and 111Q. Prerequisite: one year of high school algebra or Math. 011.

110. Preparatory Chemistry. (3). A general chemistry course for students who have not had adequate preparation in chemistry or physics. Enables students to improve their problem-solving skills and to briefly review mathematics relevant to general chemistry. Introduces the basic chemical concepts of atoms, molecules, chemical reactions, chemical equations, gas laws and solutions. Credit is allowed in only one of the following: Chem. 103Q, 110, or 111Q. Prerequisites: one and a half units of high school algebra or Math. 011.

>111Q. General Chemistry. (5). 3R; 4L. Lab fee. General education introductory course. An introduction to the general concepts of chemistry. Includes chemical stoichiometry, atomic and molecular structure, bonding, gas laws, states of matter, and chemical periodicity. Chem. 111Q-112Q meets the needs of students who may wish to take more than one course in chemistry. Credit is allowed in only one of the following: Chem. 111Q, 110Q, or 111Q. Prerequisites: a college-level chemistry course such as Chem. 110, 101, or 103, or high school chemistry or physics; and concurrent enrollment in Math. 111 or two units of high school algebra or Math. 011.

>112Q. General and Inorganic Chemistry. (5). 3R; 4L. Lab fee. General education further studies course. Continuation of Chem. 111Q. Includes thermodynamics, gaseous and ionic equilibria, kinetics, nuclear chemistry, electrochemistry, qualitative analysis, and an introduction to theories of bonding. Prerequisite: Chem. 111Q with a grade of C or better.

>301. Issues and Perspectives in Chemistry. (3). General education issues and perspectives course. Students explore the chemical concepts involved in a minimum of four current national and international scientific, social, and economic issues, and analyze the complexity of the possible solutions to these issues. Prerequisites: Chem. 101G, 103Q, or 111Q.

481. Cooperative Education in Chemistry. (1-4). Allows chemistry students to participate in the Cooperative Education program. Offered C/NCR only.

Courses for Graduate/Undergraduate Credit

505. Chemical Literature. (1). A survey of chemical publications and the publication process. Gives the student the ability to conduct a proper search of the literature for chemical information. Also covers aspects of technical writing. Prerequisite: Chem. 531.

>514. Inorganic Chemistry. (5). General education further studies course. Basic inorganic chemistry emphasizing molecular symmetry and structure, fundamental bonding concepts, electron interactions, periodicity of the elements, systematics of the chemistry of the elements, acid-base chemistry and non-aqueous solvents, classical coordination chemistry and introductory bioinorganic chemistry. Prerequisite: Chem. 112Q with a grade of C or better.

>523. Analytical Chemistry. (4). 2R; 6L. Lab fee. General education further studies course. Evaluation of data, theory and application of gravimetric analysis and precipitation, neutralization and oxidation-reduction volumetric analysis. Prerequisite: Chem. 112Q with a grade of C or better.

524. Instrumental Methods of Chemical Analysis. (4). 2R; 6L. Lab fee. Introduction to electroanalytical chemistry and optical method of analysis and analysis and separation of complex mixtures, both inorganic and organic. Also discusses general computer programming as it applies to analytical chemistry. Prerequisite: Chem. 523.

>531. Organic Chemistry. (5). 3R; 6L. Lab fee. General education further studies course. An introduction to the study of carbon compounds emphasizing reaction mechanisms, stereochemistry, and spectrographic analysis. Prerequisite: Chem. 112Q with a grade of C or better.

532. Organic Chemistry. (5). 3R; 6L. Lab fee. A continuation of Chem. 531 emphasizing the structure and reactions of principal functional groups and compounds of biological interest. Prerequisite: Chem. 531.

>533. Elementary Organic Chemistry. (3). General education further studies course. Basic organic chemistry emphasizing topics of importance to health professions and education majors. Special emphasis to carbohydrates, proteins, drugs, pesticides and energy production. Students should enroll in Chem. 534 simultaneously. Credit is not allowed for both Chem. 533-534 and 531. This course does not meet the needs of chemistry majors or premed students. Prerequisite: Chem. 112Q or equivalent.

534. Elementary Organic Chemistry Laboratory. (2). Lab fee. A basic laboratory course to provide pertinent experiences in the laboratory to fortify the survey lecture course Chem. 533. Prerequisite or corequisite: Chem. 533.

>545. Physical Chemistry. (3). General education further studies course. Thermodynamics. Studies gases, first law, thermodynamics, second and third laws, phase equilibria, solutions, chemical equilibria, electrochemistry and surface chemistry. Prerequisites: Chem. 112Q, Math. 344 or its equivalent and one semester of college physics.

546. Physical Chemistry. (3). Kinetic theory, kinetics, transport phenomena, quantum 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 546.

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; numerical differentiation and 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 methodol-
Advanced theoretical and applied principles of the interdisciplinary study of environmental science. Includes environmental chemical analysis, environmental toxicology, aquatic microbial biochemistry, environmental biocatalysis, water treatment, photochemical sound, and hazardous waste chemistry. Prerequisite: acceptance in the master's of environmental science program or instructor's consent.

704. Environmental Science Colloquium. (1). Cross-listed as Biol. 704 and Geol. 704. Students in the master's of environmental science program are required to enroll each semester (maximum 4 credit hours). Includes presentations by guest speakers and required readings for class discussion. May also include student involvement in environmentally related community groups and projects.


706. Environmental Science Internship. (3-6). Cross-listed as Biol. 706 and Geol. 706. Students in the master's of environmental science program may gain interdisciplinary skills in environmental science by participating in applied and/or basic research internship projects with local business, industry, or government agencies. Internship option is an alternative to thesis research for degree requirements. Enrollment in internship projects requires an approved proposal. Completion of an internship for graduation requires a formal oral presentation of the internship activity and a written report. Prerequisites: completion of Environmental Science I and II.

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.

713. 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, oxidation 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-orbital and valence-bond wave functions and virial and Heilmann-Feynman theorems. Prerequisite: Chem. 546, Math. 344 or equivalent. Corequisite: Chem. 705 or equivalent.

744. Computational Quantum Chemistry. (3). An introduction to molecular orbital procedures and methods for calculating a wide range of physical, chemical, and electronic properties of systems large enough to be of interest to inorganic, organic, and biochemists. Using commercial molecular orbital software programs such as MOPAC, SPARTAN, and GAUSSIAN, students learn to select appropriate "model" computational procedures to predict properties of molecules and reactions. By comparison with experiment, students learn to assess the range of applicability and accuracy of the "model" methods as applied to various categories of chemical systems. Properties considered include energies and structures of molecules, ions, and transition states; vibrational frequencies, IR and Raman spectra; thermochemical properties, heat of formation, bond and reaction energies, isomerization energy barriers; reaction pathways; molecular orbitals, atomic charges, dipole and multipole moments, ionization potentials, bond orders; orbital energies and photoelectron spectroscopy; excited state properties, singlet and triplet surfaces. Prerequisite: Chem. 546 or equivalent. (Math. 344 is necessary.)

751. Chain Growth Polymerization. (3). Mechanisms, kinetic, and thermodynamic aspects of polymerization processes which proceed by a chain growth mechanism, free radical, anionic, cationic and Zeigler Natta and group transfer polymerization. Prerequisite: Chem. 531 and 545.

752. Step Growth Polymerization. (3). Polymerization process which proceed by a step growth or ring-opening mechanism. Preparation of thermoplastics, including relationships between molecular weight and reaction condition. Preparation of thermosets including relationships between structure, conversion and gelation. Discusses individual systems such as nylon, epoxy resin and polynides in some detail. Prerequisite: Chem. 531 and 545.

753. Natural Products Chemistry. (3). A study of the synthesis, structure, bonding, reactivity and industrial applications of organotransition and nontransition metal compounds. Prerequisite: Chem. 615 or equivalent.

755. Bioinorganic Chemistry. (3). The study of the role of inorganic chemistry in biological systems. Includes electronic transport, biological catalysis mediated by metal ions, metal storage and transport, ion transport and the role of transition metals in metabolism. Prerequisites: Chem. 615 and 663 or equivalents.

756. Equilibrium and Statistics in Analytical Chemistry. (3). Covers homogeneous and heterogeneous solution equilibrium calculations and statistical methods used in experimental design and data analysis. Prerequisite: Chem. 524 or equivalent.

757. 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.

758. 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.

759. Electron Paramagnetic Resonance. (3). Includes paramagnetism, EPR, hyperfine and hyperfine interactions, spin-spin and spin-lattice relaxation, and interactions between EPR and other spectroscopic techniques. Emphasis on applications to macromolecules. Prerequisite: Chem. 524 or equivalent.

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 includes determinate 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 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 application of statistical thermodynamics to polymers. Prerequisites: Chem. 546, 843 or equivalents.

845. Quantum Chemistry. (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 electronic, time-dependent perturbation theory, vibration and rotation of diatomic molecules, vibration and rotation of polyatomic molecules, electronic spectra and magnetic resonance 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 metals, alloys, intermetallic compounds, composite materials and advanced materials. Prerequisite: 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 growing 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 Boltzmann 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.

856. Enzyme Mechanisms. (3). An introduction to the study of enzyme mechanisms. Mod-
eral 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 (affinity, gel-filtration, HPLC, ion-exchange, ion-pair), gel electrophoresis, radioactive tracer methods; cloning, sequencing and recombinant DNA procedures. Prerequisites: Biol. 203 and 204 and Chem. 662 or 663 or equivalents.


890. Research in Chemistry. (2-12). S/U grade only. Research for the student planning to receive an MS. Research is directed by a faculty member. Repeatable for credit.

990. Research in Chemistry. (2-16). S/U grade only. Research for the student planning to receive the PhD. Research is directed by a faculty member. Repeatable for credit.

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 respects their background and experience and is consistent with their educational and professional goals, or choose a structured emphasis in applied communication, broadcast journalism, electronic media, integrated marketing communications, or print journalism.

This comprehensive communication degree has three distinguishing characteristics:

1. It is interdisciplinary in nature, reflecting the contemporary belief that all communication media 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 must 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 inter-disciplinary 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. It provides locations that allow the program and its students to take full 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 concept with example, education with experience.

Degree Requirements

Major. Students majoring in communication must maintain a 2.500 grade point average (overall and in the major), complete a minimum of 40 credit hours in communication, including 22 credit hours in the communication core, and submit a portfolio of their work during their senior year (see portfolio requirement below).

All students must take the communication core courses: Comm. 130Q, 301, 305, 325, 472, 535, and two courses from 430, 630, and 631. At least 18 credit hours must be in either a structured or an open emphasis area. Specific course requirements in the emphasis areas are listed below.

a. Applied Communication: Comm. 360; choose two courses from 302, 312Q, and 328Q (Interpersonal/Organizational Communication cluster), OR choose two courses from 311, 313Q, and 632 (Rhetorical/Political Communication cluster): 640 or 650; and six hours of upper-division communication elective credit.

b. Broadcast Journalism: Comm. 401, 422, 622, one course from 304, 500, 522, 604, and 609; and six hours of upper-division communication elective credit.

c. Electronic Media: Comm. 303, 304, 332, 604, 609, and three hours of upper-division communication elective credit.

d. Integrated Marketing Communications: Comm. 324, 502, 510, 525, 626, and three hours of upper-division communication elective credit. Outside course requirements: Mkt. 300 and 405.

e. Print Journalism: Comm. 310, 401, 500, 510, one course from 340, 550, 571, 660; and three hours of upper-division communication elective credit.

f. Open Emphasis: Students can develop and propose an open emphasis more appropriate for their interests and needs than a structured emphasis area and which respects their backgrounds and experience. These proposals must be developed by students in consultation with a faculty advisor, be substantially different from the structured emphases available, and be coherent and justifiable to a faculty committee, which will review and act on these proposals at specified times during the academic year. Each student must submit for approval an Open Emphasis Plan of Study to the Undergraduate Admissions Committee of the Elliott School of Communication at the beginning of the student's junior year or upon completion of 18 credit hours in the major.

Minor. A minor in communication consists of two courses from the communication core plus at least 12 hours of electives in communication chosen with the approval of a faculty advisor (6 of the 12 hours must be at the 300-level or above)

Field Majors. Students seeking a field major may elect either an 18-hour concentration in communication (as the major area of study) or a 9-hour concentration in communication (as one of two allied departments taken in addition to the major area of study). Some or all of the upper-division course work may be in the communication core courses.

Bachelor of General Studies. Students seeking a BGS degree may elect either a 15- to 21-hour concentration in communication (as the focal or primary concentration) or a 6- to 12-hour concentration (as one of two secondary concentrations taken in addition to the primary concentration). Some or all of the upper-division course work may be in the communication core courses.
Certificate in Applied Communication

This certificate program is designed for supervisors, managers, and other professionals who interact with employees and coworkers. The six courses (18 hours) offered in this program concentrate on applied communication, a key component of successful management. These are standard college classes offering practical tools for professionals. Many are offered in the evenings, on weekends, or in condensed formats. The certificate program requires successful completion of the following courses: Comm. 302, 312Q, 325, 328Q, 360, and 650. Comm. 111, Public Speaking, or the equivalent is a prerequisite for the certificate program.

Teaching Certifications. The Elliott School of Communication offers secondary education teaching certifications (secondary field only) in two areas: speech communication and journalism. Students seeking the speech communication teaching certification must complete the following courses: Comm. 111, 130Q, 190G, 311, and 661; and Thea. 143G and 272. Students seeking the journalism teaching certification must complete the following courses: Comm. 130Q or 631, 301, 310, 510, 612, and 630; and one upper-division writing course in communication. Successful completion of either certification requires maintenance of a 2.5 GPA, both overall and in the student's major field of study.

Admission Requirements

Students planning to pursue a major in communication must make formal application for admission to major status. To be admitted, applicants must be students in Fairmount College of Liberal Arts and Sciences; have an overall grade point average of 2.500 or better; pass a standardized departmental English Proficiency Test (the Grammar, Spelling, and Punctuation test, or GSP); 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

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). Upon admission to major status, students will be assigned a faculty advisor who will help them select their emphasis area or develop an open emphasis, which requires preparation of an undergraduate plan of study. Students are strongly encouraged to meet with their advisors at least once a semester while they are enrolled.

Portfolio Requirement

Students majoring in communication must successfully complete Comm. 472, Senior Portfolio Seminar. The seminar will assist students to prepare a resume and portfolio that reflects their academic and professional work in communication, and which can be used in seeking employment or opportunities for further study upon graduation. The portfolio, which can include videotapes, interactive media, brochures, scholarly papers, and so on, will be reviewed by a three-member committee of communication faculty and professionals. Students should enroll in the seminar upon achieving senior status (i.e., finished 90 hours of course work) and after completing at least 18 hours of communication course work.

Communication Core Courses

130Q. Communication and Society. (3). Introduces 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). A hands-on introduction to writing for the mass audience, including print and broadcast journalism, advertising, and public relations. In this survey-style course, students become acquainted with various forms and practices, written and technical, for creating, testing, and revising messages. Students will learn to apply media judgment and ethics. Course is a prerequisite to many specialized Elliott School courses. Prerequisites: grade of C or better in Eng. 101, 102, and Comm. 130Q; and the department's Grammar, Spelling, and Punctuation (GSP) exam.

305. Visual Technologies. (3). Examines the importance and meaning of visual symbols in modern society. Explores the methods by which visual images inform, educate, and persuade readers.

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 leadership, 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). General education further studies course. Introduces the process of research and inquiry across the discipline of communication. Helps 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). General education further studies course. Introduces 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 includes print advertisements, radio and television messages, newspaper features, and public speeches. Prerequisites: junior standing and Comm. 301 with a C or better or instructor's consent.

560. Communication Law and Responsibility. (3). General education issues and perspectives course. 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 law of the press. Includes discussion of the first amendment rights, libel, privacy, copyright, advertising, obscenity, pornography, and corporate communication concerns.

561. Historical and Theoretical Issues in Communication. (3). General education further studies course. Examines the development of various issues in communication in historical context. Explores significant humanistic and scientific theories of communication and the historical development of mediated communication. Uses selected theories to generate critiques of specific communication events. Prerequisites: junior standing and Comm. 130Q or instructor's consent.

Lower-Division Courses

011. Reducing Fear of Speaking. (2). 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 such situations and to develop techniques for coping with them. Taught in a workshop setting with emphasis on role-playing. Prerequisites: junior standing and Comm. 130Q and instructor's consent.

111. Public Speaking. (3). General education basic skills course. Studies basic concepts of public speaking 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 Elliott School of Communication.)

150. Debate Workshop. (2). Instruction in theory and techniques of debate and preparation for debating the national high school debate topic. Not Repeatable for credit. Prerequisite: departmental consent.

190Q. Introduction to Human Communication. (3). General education introductory course. Explores 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 clinic equal meetings. Repeatable for a maximum of four hours credit. May not be counted toward a major. Prerequisite: departmental consent.

220Q. Introduction to Film Studies. (3). 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). General education further studies course. Cross-listed as Theatre 221Q. Develops the mental, vocal, and analytical techniques essential to the oral interpretation of literature.

222. Improving Voice and Diction. (3). Cross-listed as Theatre 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.

290. Listening Strategies. (3). Provides students with an understanding of the process of listening in a variety of communication settings. Aids students in improving listening in the classroom, interpersonally, and professionally. 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). General education further studies course. 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.

303. 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.

304. Studio Video Production. (3). 2R; 2L. Basic principles, procedures, and techniques of video production, including operation of studio equipment and direction of television programs and other video productions. Prerequisites: Comm. 303 or instructor's consent.

310. 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.

311. Persuasion. (3). General education further studies course. Explores the history, development, and manifestation of persuasive techniques through the study and/or creation of persuasive messages in speeches, mass media, advertising, politics, and organizations. The student becomes a better user and critic of persuasive messages and strategies. Prerequisite: Comm. 111.

312Q. Nonverbal Communication. (3). General education further studies course. 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. Emphasizes the application of nonverbal communication to the total human communication process. Prerequisite: Comm. 111.

313Q. Argumentation and Advocacy. (3). General education further studies course. Studies 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.

324. Introduction to Integrated Marketing Communications. (3). Introduces the theory and practice of the integrated fields of advertising and public relations viewed from the perspective of integrated marketing communications. Includes audience research, the creation of specialized messages, and message delivery systems. Prerequisite: Comm. 301 or departmental consent.

328Q. Teamwork, Leadership, and Group Communication. (3). Studies the nature and functions of groups and the development of skills for identifying and evaluating communication behavior in small group situations emphasizing the dynamics of teamwork and group leadership.

332. Writing for Electronic Media. (3). Writing formats, commercials, continuity, and drama for the electronic media, including studio radio and video programs and productions. Prerequisite: Comm. 301 with a C or better 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. 310.

349. Hostage and Crisis Negotiations. (3). An introductory course focusing upon the study of negotiation management and techniques appropriate to the handling of hostage negotiations, barricaded subject negotiations and other exigent situations such as suicide and violent domestic disturbances. Examines the use and the training of specialized negotiation teams. Prerequisites: CJ 191Q and Comm. 302 or equivalent or instructor's consent.

360. Applied Communication Strategies. (3). Surveys communication strategies as applied in interpersonal/organizational and rhetorical/political settings. Examines the connection between communication and technology, explores strategies for communication criticism, and identifies communication strategies relevant to issues such as human relations, ethical decision making, freedom of speech, and political rhetoric. Prerequisite: Comm. 130Q or instructor's consent.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: departmental consent.

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 with a C or better.

402. Debate and Forensics. (2). Research and preparation for debate and individual speaking events, participation in Intercollegiate debate and/or forensics competition, and debate and forensics clinic equal 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. 310.

481. Cooperative Education. (1-4). Credit for cooperative field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated, but lim-
Courses for Graduate/Undergraduate Credit

500. Advanced Reporting. (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 the study and practice of journalistic interviewing. Prerequisites: junior standing. Comm. 301 with a C or better 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 writing 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. Prerequisites: 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 newsrooms. 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 and Comm. 301 with a grade of C or better 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.

550. Opinion Writing. (3). Studies editorial judgment, including practice in the writing of print, broadcast, and electronic opinion pieces and the examination of traditional and new technology research materials available to opinion writers. Prerequisites: Comm. 301 with a C or better 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. Feature Writing. (3). Writing features for newspapers and magazines. Nonfiction topics may include personal experience essays, consumer pieces, travel articles, and personality profiles. Prerequisites: Comm. 301 with a C or better and junior standing.

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 in relation to effective video productions in a setting. Prerequisite: Comm. 304 or instructor's consent.

609. Interactive Media Production. (3). Investigation and application of production techniques for educational and instructional broadcast, 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 an understanding of the interrelationships in mass media enterprises. Prerequisite: junior standing or departmental consent.

612. School Publications Advising. (3). Assists those who are preparing to advise and teachers who currently supervise a student newspaper or yearbook. Emphasizes techniques for teaching, writing, planning for design, duties relating to production and finance of school publications, and methods to help students become better communicators. Prerequisite: Comm. 301 with a C or better or instructor's consent.

622. Studio B: 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. 422 or instructor's consent.

626. Integrated Marketing Communications Campaigns. (3). Instruction and practice in planning and developing integrated advertising and public relations campaigns. Teaches students to perform a situation analysis, identify objectives, develop strategies and tactics, and write a plans book, as well as produce advertising and public relations campaigns materials. Prerequisite: Comm. 324 or instructor's consent.

632. American Public Address. (3). General education further studies course. 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. 635. Provides the woman student experience in decision making and improves skills in leadership through role playing and exercise in group dynamics.

640. Issues in Corporate Communication. (3). Examines how corporations craft messages that are persuasive to their various publics. Special attention to how companies use communication strategies to cope with situations that threaten their reputations.

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 forensics programs (debate and individual events). The future teacher is made aware of the literature and professional organizations in the field.

675. Directed Study. (2-4). Cross-listed as Thea. 675. Individual study or project. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

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/NCR. Prerequisite: departmental consent.

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). 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. 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 senior standing or departmental consent.

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 Communication Research. (3). An integrative approach to an understanding of the nature and scope of communication 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 non-experimental research, particularly those forms of research common to communication studies. Studies research design, methods and reporting techniques. Prerequisite: Comm. 801.

812. Contemporary Theories of Communication. (3). Studies selected conceptual models useful in the academic study of human communication, including theories involving such contexts as interpersonal communication, public communication, and mass communication.

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.

825. Group Communication. (3). Examines communication processes that operate in groups in various contexts. Provides an overview of relevant theory, as well as methodologies through which group communication may be critically analyzed in applied settings.


831. Theories of Rhetoric Renaissance to Early Modern. (3). Cross-listed as Engl. 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. 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.

870. Directed Study. (1-5). Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

875-876. Thesis. (2-2). Prerequisite: departmental consent.

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, 211, 300, 312, 320, 410, 440, 510, 540 and 560. This mix of theoretical and practical courses establishes a strong foundation for advanced courses in the discipline.

In addition, students complete 15 hours of required courses in advanced electives in computer science. These 15 hours provide students with a depth and breadth of knowledge, beyond what they receive in core courses, by exposing them to advanced topics in some of the major areas of computer science. Advanced courses fall in seven areas: artificial intelligence, software engineering, theoretical computer science, computer systems, computer hardware, information systems, and symbolic and numeric computation. The choice of advanced electives should span at least three of these areas.


3. Science: The science requirement for the BS degree provides a solid grounding in scientific studies, including the concepts of the scientific method and the practical skills acquired in a two-semester lab sequence. Choose one of the following options:

A. Biol. 203 (5)
B. Phys. 313 (4)
C. Chem. 111 (5)
D. Geol. 111 (4)
E. Phys. 213 (5)
F. Anthr. 101Q (3) or Biol. 203 (5)
G. Chem. 112 (5)
H. Geol. 320 (3)
I. Anthr. 101Q (3) or Biol. 203 (5)

4. Additional required course for CS majors: Phil. 354, Ethics and Computers, gives students an ethical context for their professional work.

Major: Bachelor of Arts (BA)

1. Computer science: The following required core computer science courses provide a good foundation for the discipline: 105, 210, 300, 312, 320, 410, 440, 510, 540.


3. Additional required course for the major: Phil. 354, Ethics and Computers, gives students an ethical context for their pro-
fessional work. Engl. 210, Business, Professional and Technical Writing, improves students' ability to communicate in the workplace.

4. Sequence electives: In addition, students complete 15 hours of sequence electives. These courses can be chosen from fields such as computer science information systems, software engineering, systems analysis, or some application area such as business administration. Other choices are also possible. Students should choose sequence electives in consultation with and with the approval from the departmental academic advisor.

Minor

The minor provides a valuable addition to other majors and can help a student demonstrate ability in the computer science discipline. Students complete a required minimum of 18 hours of computer science courses. These 18 hours must include CS 210, CS 211, CS 300, and two CS courses numbered above 300. CS 350 workshops are not counted toward meeting the minor requirements. Also, students may count no more than one 497 course toward the minor.

Certificates in Computer Science

The computer certificates are designed for job seekers, job changers, employees needing additional training, or anyone simply needing well-rounded computer experience. Individuals may choose to earn any or all of the certificates. The minimum grade point average for each certificate is 2.00.

Information Technology Certificate: 22 hours minimum
CS 105, Introduction to Computers and Their Applications (3)
Math. 111, College Algebra (or equivalent)
Engl. 101, College English I
CS 211, Problem Solving and Programming in C Language
CS 497C, Introduction to UNIX
6 hours of computer science electives chosen in consultation with the departmental academic advisor.

Computer Competency Certificate: 5 hours
CS 151A, Windows-95-1 for Beginning Users
CS 150A, Word-97-1
CS 150P, Excel-97-1
CS 150K, Access-97-1
CS 150W, Internet Tools
Advanced Computer Competency Certificate: 5 hours
CS 151B, Windows-95-2
CS 150B, Word-97-2
CS 150R, Excel-97-2
CS 150L, Access-97-2
CS 151K, Advanced Internet Tools
Internet Competency Certificate: 6 hours
CS 150W, Internet Tools
CS 151K, Advanced Internet Tools
CS 350K, Web Design Using HTML
CS 1511, Internet Research Skills
CS 151J, Multimedia Literacy

Example Schedule for BS in Computer Science

Students must complete Engl. 100 or Engl. 101 and Math. 111, College Algebra, with a C or better, or have equivalent CLEP or transfer credit before taking any computer science courses toward the BS degree.

Freshman Year (fewer than 30 credit hours earned)
Engl. 101, College English I ................. 3
Engl. 101, College English II .................. 3
Math. 242, Calculus I ............................ 5
First Natural Science course .................. 4-5
Comm. 111, Public Speaking ................... 3
15-16

Second Semester
Engl. 102, College English II .................. 3
CS 210, Introduction to Computer Science ...... 4
CS 211, Problem Solving and Programming in C .... 5
Math. 243, Calculus II ............................ 5
16

Sophomore Year (30-59 credit hours earned)
CS 300, Data Structures and Algorithms I .... 4
CS 320, Discrete Structures in Computer Science .... 4
Math. 344, Calculus III, or Math. 511, Linear Algebra .. 3
Second Natural Science course ................. 3-5
American Government (Hist. 131Q or 132Q or Pol. S. 121Q) .. 3
Hist. of Humanities; Pol. S. is Social and Behavioral Sciences 14-16

Second Semester
CS 312, Assembly Language and Systems Programming .. 3
CS 410, Programming Paradigms ................ 3
Stat. 460, Elementary Probability and Mathematical Statistics .. 3
Third Natural Science course ................. 3-5
Elective .................................................. 3
15-17

Junior Year (60-89 credit hours earned)
CS 440, Computer Organization and Hardware .... 4
CS 510, Programming Language Concepts .......... 3
Humanities Introductory course (Phil. 125Q) ........ 3
Fine Arts Introductory course .................. 3
Social and Behavioral Sciences Introductory course .. 3

Second Semester
CS 540, Operating Systems ................... 3
Advanced CS elective ............................ 3
Introductory course in Social and Behavioral Sciences or elective ... 3
Humanities/Fine Arts Further Studies or Issues and Perspectives course (Phil. 354) ... 3
Elective .................................................. 3
15

Senior Year (90 credit hours earned)
Advanced CS elective ............................ 3
Advanced CS elective ............................ 3
Social and Behavioral Sciences Introductory course (literature) ... 3
Social and Behavioral Sciences Further Studies or Issues and Perspectives course ... 3
Elective .................................................. 3
15

Second Semester
CS 560, Data Structures and Algorithms II ...... 3
Advanced CS elective ............................ 3
Advanced CS elective ............................ 3
Issues and Perspectives course or Fourth Natural Science course or elective (as needed) .. 3
Elective .................................................. 3
15

Example Schedule for BA in Computer Science

Students must complete Engl. 100 or Engl. 101 and Math. 111, College Algebra, with a C or better, or have equivalent CLEP or transfer credit before taking any computer science courses other than CS 105.

Freshman Year (fewer than 30 credit hours earned)
Engl. 101, College English I ................. 3
Engl. 101, College English II .................. 3
Math. 111, College Algebra ................. 3
CS 105, Introduction to Computers and their Applications ............................................. 3
Comm. 111, Public Speaking .......................................................... 3
American Government (Hist. 131Q or 132Q or Pol. S. 121Q) ..................................... 3
Hist. is Humanities; Pol. S. is Social and Behavioral Sciences

Second Semester
CS 210, Introduction to Computer Science ....................................................................... 4
CS 211, Problem Solving and Programming in C ............................................................ 4
Foreign language ........................................................................................................... 5

Sophomore Year
(30–59 credit hours earned)
CS 300, Data Structures and Algorithms I .................................................................... 4
CS 320, Discrete Structures in Computer Science ............................................................ 4
Math. 144, Business Calculus ................................................................. 3
Foreign language .......................................................................................................... 5
Natural Science Introductory course and lab (biology or biological anthropology) .... 15

Second Semester
CS 312, Assembly Language and Systems Programming .............................................. 4
Stat. 570, Elementary Statistics ..................................................................................... 3
Foreign language .......................................................................................................... 5
Natural Science Introductory course and lab (biology or biological anthropology) .... 15

Junior Year
(60–89 credit hours earned)
CS 410, Programming Paradigms .................................................................................. 3
CS 440, Computer Organization and Architecture .................................................... 4
First Social and Behavioral Sciences course ................................................................ 3
Fine Arts Introductory course ....................................................................................... 3
Humanities Introductory Course (Phil. 125Q) ................................................................. 3

Second Semester
CS 510, Programming Language Concepts .................................................................. 3
Computer science sequence elective ............................................................................ 3
Natural Science Introductory Course (physical) ......................................................... 5
Second Social and Behavioral Sciences course .......................................................... 5
Humanities/Fine Arts Further Studies or Issues and Perspectives course (Phil. 354) .. 17

Senior Year
(90 credit hours earned)
CS sequence elective ..................................................................................................... 3
CS sequence elective ..................................................................................................... 3

Humanities Introductory course
(literature) .................................................................................................................. 3
Natural Science Further Studies or Issues and Perspectives course ........................... 3
Social and Behavioral Sciences
Introductory course (second area) ................................................................................... 3

Second Semester
CS 540, Operating Systems ........................................................................................... 3
CS sequence elective ..................................................................................................... 3
CS sequence elective ..................................................................................................... 3
Engl. 210, Business/Technical Writing ......................................................................... 3
*Social and Behavioral Sciences or elective course ..................................................... 15

*Choice depends on American Government selection. If Hist. 131Q or 132Q is taken to fulfill the American Government requirement, this choice needs to be a Social and Behavioral Science course. If Pol S. 121Q is taken to fulfill the American Government requirement, this choice can be an elective course.

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 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 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 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 in Computer Science. Prerequisites: a grade of C or better in a high-level 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 in Computer Science. Prerequisite: CS 207 or 211 with a grade of C or better or departmental consent.

Lower-Division Courses

105. An Introduction to Computers and their Applications. (3). 2R; 3L. General education introductory course. A computer literacy course introduces students to the Internet and other networks, multimedia, CD ROM, 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; systems analysis and design; issues of ethics posed by technology, and future trends for computers. The laboratory section includes hands-on experience with the Internet, Windows, and microcomputer applications packages such as word processors, spreadsheets, etc. No credit granted toward the BS 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. General education introductory course. Broad introduction to the discipline of computer science. Covers hardware, computer hardware, operating systems, introduction to high-level language programming, databases, artificial intelligence and other applications, and social issues. Prerequisites: Engl. 101, Math. 111, 112 or equivalent with a grade of C or better in each.

211. Problem Solving and Programming in C. (4). 2R; 2L. First course in programming in a high-level language. Emphasizes analyzing problems, designing solutions and expressing them in the form of a well-structured program in the high-level language C. Prerequisites: Engl. 101, Math. 111, 112 or equivalents with a grade of C or better in each.

Upper-Division Courses

300. Data Structures and Algorithms I. (4). 3R; 2L. General education further studies course. Basic data structures and associated algorithms. Includes stacks, queues, linked lists, trees, and graphs. Analyzes algorithms for efficiency and correctness. Prerequisites: CS 210 and 211, each 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. Prerequisites: CS 210 and 211, each with a grade of C or better.

320. Discrete Structures in Computer Science. (4). 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; elementary graph algorithms; finite automate and regular languages; context free grammars and languages. Prerequisites: CS 210 and 211, each with a grade of C or better.

350. Workshop. (1–5). Short-term courses with special computer science emphases. Repeat-
able for credit. Prerequisite: departmental consent.

365. Introduction to Computer Graphics. (3). 2R; 2L. Introduces interactive computer graphics, presenting the basic concepts of the field. Includes geometry of computer graphics, graphics forms - twodimensional representations for the description of structure, 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.

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 Cr/NCr 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

501. Numerical Programming Techniques. (3). 2R; 2L. A study of the programming techniques used to solve nonlinear equations, interpolate, integrate and solve systems of linear equations. Discusses the implications of finite precision floating point arithmetic. Also covers techniques for initial and boundary value problems in ordinary differential equations. Selected algorithms are implemented on the computer. Prerequisites: Math 243 and CS 300 with grades of C or better.

510. Programming Language Concepts. (3). Theoretical concepts in the design and use of programming languages, including scope of declarations, storage allocation, subroutines, modules, language structure and syntax and semantics. Introduction to the concepts of different styles of languages - imperative languages, functional languages, logic 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, deadlocks, memory management, file systems. Studies a specific operating system in depth. Programming assignments consist of modifications and enhancements to the operating system studied. Prerequisite: CS 440 with a grade of C or better.

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 Stat. 460 with a grade of C or better in each.

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 system software through programming laboratory exercises. Prerequisite: CS 300 and 312 with a C or better grade.

615. Compiler Construction. (3). 2R; 2L. First compiler course for students with a good background in programming languages and sufficient programming experience. Covers-over-all design and organization of compilers and interpreters, lexical and syntax analysis, construction of symbol tables, scope analysis, type checking, error recovery, run-time organization, intermediate code and its interpretation, code generation and optimization. Project-oriented course. Emphasizes practical experience gained through the design and implementation of a simplified but non-trivial compiler for a strongly typed, procedural language. The implementation is carried out in a modern systems programming environment. 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. Introduction to Database Systems. (3). Fundamental aspects of database systems, including conceptual database design, entity-relationship modeling, and object-oriented modeling; the relational data model and its foundations, relational languages, and SQL (structured query language) of logical database design, database theory, and normal forms; physical database design, file structures, indices, and decomposition; integrity, security, concurrency control, recovery techniques, and optimization of relational queries. Prerequisite: CS 300 and 320 with a grade of C or better.

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. Prerequisites: CS 300 and 410, each 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 key to the development of the well-trained computer applications analyst. Includes systems design, cost benefit analysis, data base design, distributed processing, project management and documentation. Prerequisite: CS 300 with a grade of C or better.

690. Information Systems Engineering. (3). Study of information systems design techniques, issues of systems evolution, project management, engineering design, various views of information systems and software and formal design approaches. Covers structured analysis and design approach, object-oriented approach, software design, database design, rule modeling, user interface design, performance evaluation issues relative to software design, systems evolution aspects from a software maintenance perspective, project management techniques and information systems engineering. 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.

742. Computer Communication Networks. (3). 2R; 2L. Introduction to network programming for the internet environment including the basic concepts of TCP/IP, client-server paradigm, programming of clients, and various types of servers, remote procedure calls, concurrency management, and interconnection techniques. Emphasizes the design principles that underlie implementation of practical applications. Prerequisite: CS 300 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, metatules and dealing with uncertainty. Introduces basic of a production system language. Prerequisite: CS 410 with a grade of C or better or instructor’s consent.

781. Cooperative Education in Computer Science. (1-3). Practical experience in a professional environment to complement and enhance the student’s academic program. For master’s level CS students. Repeatable, but may not be used to satisfy degree requirements. Offered CR/NC only. Prerequisites: departmental consent and graduate GPA of 3.0 or above.

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


821. Analysis of Algorithms. (3). Deals with advanced topics in the design and analysis of algorithms, including sorting networks, algorithms for parallel computers, Strassen’s algorithm for matrix multiplication, polynomial multiplication and the FFT, number theoretic algorithms (gcd computation), and hard problems and intractability. Prerequisites: CS 560 with a grade of B or better; 720 is recommended.

822. Parallel Algorithms. (3). Deals with the design and analysis of parallel algorithms for various combinatorial problems in the Parallel Random Access Machine (PRAM) model. Covers models of parallel computation, the PRAM model, basic techniques for designing parallel algorithms, algorithms on lists and trees, and algorithms for selection, merging, sorting, searching as well as algorithms for graph problems. Prerequisite: CS 560 with a grade of B or better.

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 on-line multiple computer systems emphasizing network design and telecommunications. Includes distributed, communicating, interactive and client/server communication and centralization versus distribution. Also includes study of the use of microcomputers in representative configurations. Prerequisite: CS 540.

862. Advanced Database Systems. (3). Covers recent developments and advances in database technology. For students who have had a first database course and have a good background in the related computer science disciplines. Possible topics include extended relational database management systems, object-oriented database management systems, deductive databases, database type systems and database programming language, persistent languages and systems, distributed databases. 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.

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 771 or instructor’s consent.

874. Simulation and Modeling. (3). An up-to-date treatment of important aspects of simulation modeling, including data collection, input and output data analysis, modeling principles, simulation with general-purpose programming languages and special-purpose simulation languages. Emphasizes theory, design, and implementation of modeling languages. Prerequisites: CS 300 and Stat. 460 with a grade of C or better in each; or instructor’s consent.

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.

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 topics selected with the approval of their graduate advisors. Repeatable up to four credit hours. Graded S/U only. Prerequisite: departmental consent.

891. Project. (3). An intensive project involving the analysis and solution of a significant practical problem which must be supervised by a CS graduate faculty advisor and can be job-related. Students must write a report on the project and pass an oral final examination by an ad hoc faculty committee headed by the project advisor. 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.

Criminal Justice

See Urban and Public Affairs, Hugo Wall School of.

Economics

The economics major in Fairmount College of Liberal Arts and Sciences provides excellent preparation for law school, for additional academic study in economics, business, and other fields, and for careers in public service. The study of economics is useful in helping students develop both their skills in critical thinking and their abilities to use analytical tools to solve complex problems. It is a major that lays a foundation for many career paths.

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 advisor in the Department of Economics in Clinton Hall. Students in this major or minor must achieve a minimum 2.250 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
Econ. 201Q and 202Q 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. 101G, 102G, 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 consult a secondary social studies advisor 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 arts 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)
   - Engl. 272Q, 310, 320Q or 330Q, 360, 361, 362Q, 274 or 315
II. Major Requirements (12 hours) with at least 6 upper-division

**Minor.** A minor consists of 15 hours and requires Engl. 310 and either 320Q or 330Q. Of the remaining nine hours, at least six must be of upper-division work. Engl. 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 Engl. 101 and 102 and thereafter complete 33 hours of course work in English, including the following courses:

I. Basic Requirements (12 hours)
   - Engl. 272Q, 310, 320Q or 330Q, 274 or 315
II. Major Requirements (3 hours)
   - Engl. 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 Engl. 301, 303, 401, 403, 517, 540, 585, 586, 604, 605 (except for Engl. 301 and 303, 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

**Teaching Students must file a declaration of English teaching major with an assigned English-education advisor 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 one of the following: 316, 317, 667 or 274
II. Composition (6 hours)
   - English 680 and one of the following: 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: English 362Q or 503, 252Q or 504, 360 or 361
   - C. Cross-cultural language/literature: English 342, 345, 365 or 672
   - D. Literature for adolescents: CT 616
IV. Other (6 hours)
   - A. Theatre 143G and 221Q
   - V. Electives (6 hours)
   - Six hours in English or in certifiable minor

**Composition**

**Noncredit Courses**

001. 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.

002. Basic Skills for ESL I. (3). Offered Cr/NCr only. Teaches the fundamental elements of written English, emphasizing acquisition of basic grammatical and syntactical structures and the writing of paragraphs.

003. Basic Skills for ESL II. (3). Offered Cr/NCr only. Extends the skills developed in Engl. 002. 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: Engl. 001.
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 applies for graduation. Prerequisite: Eng. 013 or satisfactory score on placement test.

101. College English I. (3). General education basic skills course. Focuses on developing reading and writing skills appropriate to academic discourse. Integrates the writing process, rhetorical modes, and library skills into writing assignments related primarily to non-fiction readings. Prerequisite: qualifying score on ACT or placement exam, or successful completion of Eng. 011.

102. College English II. (3). General education basic skills course. 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: Eng. 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). Provides instruction and practice in writing the kinds of letters, memos, instructions, and reports required in the professional world of business and industry. Emphasizes both formats and techniques necessary for effective and persuasive professional communication. Prerequisite: Eng. 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 C/R/NC only.

Courses for Graduate/Undergraduate Credit

581. Composition Practicum. (1). Required for all teaching assistants in English. Does not count for credit toward the MA or MFA degree. Focuses on techniques and strategies for teaching composition. Each participant enrolls in the syllabus group appropriate to the composition course he or she teaches. Graded S/U only. Repeatable for credit. Prerequisite: appointment as a graduate teaching assistant in the Department of English.

580. Theory and Practice in Composition. (3). Introduces theories of rhetoric, research in composition and writing programs, and practices in schools and colleges. Students investi-
gate 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). 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: Eng. 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). 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: Eng. 101 and 102.

Upper-Division Courses

301. Fiction Writing. (3). Primary emphasis on student writing. Students study form and technique by reading published works and apply those studies to the fiction they write. Prerequisite: Eng. 285Q with a grade of B or better.

303. Poetry Writing. (3). Primary emphasis on student writing. Students study form and technique by reading published works and apply those studies to the poetry they write. Prerequisite: Eng. 285Q with a grade of B or better.

401. Fiction Workshop. (3). Advanced course. Manuscripts will be critiqued to develop skill in writing, rewriting, and polishing. Repeatable for credit. Prerequisite:Eng. 301.

403. Poetry Workshop. (3). Advanced course. Manuscripts will be critiqued to develop skill in writing, rewriting, and polishing. Repeatable for credit. Prerequisites: Eng. 303.

Courses for Graduate/Undergraduate Credit

517-518. Playwriting I and II. (3; 3). Cross-listed as Theatre 516 and 517. The writing of scripts for performance. Emphasizes both verbal and visual aspects of playwriting. If possible, the scripts are performed. Not repeatable for credit. Prerequisite: instructor's consent.


Courses for Graduate Students Only

801. Creative Writing: Fiction. (3). Advanced work in creative writing. Repeatable for credit. Prerequisite: consent of creative writing director.

803. Creative Writing: Nonfiction. (3). Advanced work in creative nonfiction: forms of nonfiction requiring a distinctive voice and demanding a formal artistry generally associated with fiction. Prerequisite: consent of creative writing director.

805. Creative Writing: Poetry. (3). Advanced work in the writing of poetry. Repeatable for credit. Prerequisite: consent of creative writing director.

875. Master of Fine Arts Essay. (1-6).


Linguistics

Upper-Division Courses

315. Introduction to English Linguistics. (3). General education further studies course. Cross-listed as Ling. 315. Introduction to linguistic principles, including phonological and grammatical concepts.

316. English Sentence Structure. (3). Cross-listed as Ling. 316. The basic rules of English syntax, specifically designed for prospective teachers of English but open to all interested students interested in English sentence structure.

317. History of the English Language. (3). Cross-listed as Ling. 317. Linguistic and cultural development of English. Specifically designed for prospective English teachers, but open to all interested students. Prerequisite: Eng. 315 or departmental consent.

Courses for Graduate/Undergraduate Credit

667. English Syntax. (3). Cross-listed as Ling. 667 and Anth. 667. A study of the basic principles of English syntax, covering the major facts of English sentence construction and relating them to linguistic theory. Prerequisite: Eng. 315 or equivalent or departmental consent.
672. Studies in Language Variety. (3). Cross-listed as Ling. 672. An introduction to the study of language variety with special attention to regional and social dialect in America and methods of studying it. May be repeated for credit when content varies. Prerequisite: Eng. 315 or departmental consent.

727. Teaching English as a Second Language. (2-3). Cross-listed as Ling. 727. Discusses current methods of teaching English to non-native speakers. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use.

740. Graduate Studies in Linguistics. (3). Cross-listed as Ling. 740. Selected topics in theories of language and methods of linguistic study. With departmental consent, the course is repeatable for credit.

Literature

Lower-Division Courses

>220G. The Literary Heritage: English Masterpieces. (3). General education introductory course. Introduces to the lower-division general student selection from the English masterpieces that constitute the literary heritage.

>223. Books and Ideas. (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.

>230G. Exploring Literature. (3). General education introductory course. 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 it is, what it does and how it does it. Readings are selected with careful attention to the needs and interests of non-English majors and a cultural rather than a technical approach is employed.

>232G. Themes in American Literature. (3). General education introductory course. 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 related to the representative works being studied, amplify the scope and range of literature per se.

>252Q. Modern American Writers. (3). General education further studies course. A survey of important works by major American writers since World War I.

>254Q. Modern British Literature. (3). General education further studies course. A survey of important works by major writers of the British Isles including Ireland, in the 20th century.


Readings from mythology, the classics and selected books of the Bible.

274. The Language of Literature. (3). An examination of the principles and problems of literary interpretation that are especially related to language structure.

>275Q. Studies in Popular Literature. (3). General education further studies course. 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.

>290Q. The Bible as Literature. (3). General education further studies course. 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.

Upper-Division Courses

307G. Narrative in Literature and Film. (3). 2R; 2L. A comparative aesthetic analysis of the art of narration in literature and especially in film.


310. The Nature of Poetry. (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.

>320Q. The Nature of Drama. (3). General education further studies course. 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.

>330Q. The Nature of Fiction. (3). General education further studies course. Acquaints the student with 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.

>336. Women's Personal Narratives. (3). Cross-listed as Anthr. 336. Explores the literary genre of the journal as practiced by both historical and modern women. Works by both 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: Eng. 101 and 102.

>340Q. Major Plays of Shakespeare. (3). General education further studies course. For students who wish to study the best work of Shakespeare's career in one semester. Students who take this course may take Eng. 515 once for credit.

342. American Folklore. (Cross-listed as Anthr. 430). 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.

345. Studies in Comparative Literature. (3). General education further studies course. 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.

346. American Multicultural Literature (3). Provides broad exposure to the literature of various cultures in the U.S., including African American, Native American, Asian American, Chicano/o and immigrants from other cultures. Prerequisites: Eng. 101, 102.

347. World Comparative Literature. (3). Emphasis on emergent, contemporary literatures written in or translated into English from Africa, Asia, Australia, the Pacific and the Americas. Texts may include novels, poetry, plays, essays, films and other forms of creative expression. Prerequisites: Eng. 101, 102.

>360. Major British Writers I. (3). General education further studies course. Covers the primary writers in British literature from the beginnings through the eighteenth century.

>361. Major British Writers II. (3). General education further studies course. Covers the primary writers in British literature from the nineteenth century to the present.

>362Q. American Writers of the 19th Century. (3). General education further studies course. 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.

365. African-American Literature. (3). General education further studies course. A survey course; acquaints the student with the most significant African-American writers from the 19th century to the present. Covers early slave narratives and early slave poetry to the Harlem Renaissance; student reading, discussion and writing begin with the Harlem Renaissance and end with the 1970s. Prerequisites: Eng. 101 and 102.

>400G. The Literary Imagination: The Tragic, Comic, Heroic, Satiric Modes (3). General education further studies course. Acquaints the general 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 plei-
508. Studies in American Literature I. (3). The major fiction, poetry and nonfiction prose of the 19th century. Discussions may include the historical evolution of American letters, the development of the novel, and the transcontinental period and the rise of western and regional literatures.

509. Studies in American Literature II. (3). Fiction, poetry and drama from the late 19th century to after World War I. Readings also may include literary criticism and other types of nonfiction prose. Discussions cover themes, topics and literary forms inspired by the social and cultural movements and events of the first half of the 20th century.

510. Studies in Fiction. (3). Subjects announced each semester. Repeatable for credit.


512. Studies in Drama. (3). Subjects announced each semester. Repeatable for credit.


514. Independent Reading. (1-3). For majors and nonmajors who wish to pursue special reading or research projects in areas not normally covered in course work. Repeatable for credit.

Courses for Graduate/Undergraduate Credit

523. 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.

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.

525. 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.

526. Readings in Romantic Literature. (3). Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries. Prerequisites: senior 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.


529. Studies in Contemporary Literature. (3). Modern literature, primarily British and American, since 1950. Subjects announced each semester. Repeatable for credit.

530. Reading in English and Irish Literature of the 18th Century. (3). English and Irish literature of the 18th century. Some literature, including all of Shakespeare, covered. Prerequisites: junior standing and one college literature course, or instructor's consent.

531. Reading in Renaissance Women's Drama. (3). Selected works by and about women to discover the insights of the various playwrights with change of content. Prerequisites: junior standing and one college literature course or instructor's consent.

532. Reading in Shakespeare. (3). Chaucer's "Canterbury Tales," "Troilus and Cressida" and selected lyrics, with a few works by other late 14th century authors and some critical and historical studies. Prerequisites: junior standing and one college literature course, or instructor's consent.

533. Reading 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.

534. Reading in Romantic Literature. (3). Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries. Prerequisites: senior standing and one college literature course, or instructor's consent.

535. Reading 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.

536. Reading in Modern British Literature (to 1950). (3). English and Irish literature of the first half of the 20th century. Subjects announced each semester. Repeatable for credit.

537. Reading in Contemporary Literature. (3). Modern literature, primarily British and American, since 1950. Subjects announced each semester. Repeatable for credit.

538. Reading in English and Irish Literature of the 18th Century. (3). English and Irish literature of the 18th century. Some literature, including all of Shakespeare, covered. Prerequisites: junior standing and one college literature course, or instructor's consent.

539. Reading 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.

540. Reading in Romantic Literature. (3). Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries. Prerequisites: senior standing and one college literature course, or instructor's consent.

541. Reading 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.


543. Reading in Contemporary Literature. (3). Modern literature, primarily British and American, since 1950. Subjects announced each semester. Repeatable for credit.

544. Reading in English and Irish Literature of the 18th Century. (3). English and Irish literature of the 18th century. Some literature, including all of Shakespeare, covered. Prerequisites: junior standing and one college literature course, or instructor's consent.

545. Reading 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.

546. Reading in Romantic Literature. (3). Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries. Prerequisites: senior standing and one college literature course, or instructor's consent.
WSU offers an interdisciplinary Master of Science degree program. Directed Reading. (2-3). For graduate students with department consent. Prerequisite: department consent.

Environmental Science
WSU offers an interdisciplinary Master of Science degree program in environmental science. This degree program educates scientists in a multidisciplinary approach (involving primarily biology, chemistry, and geology) rather than from the perspective of a single discipline. For more information, consult the WSU Graduate Bulletin.

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 art form and to gain experience in media production. The film studies minor consists of 18 semester hours from the courses listed below, selected with the approval of the coordinator of film studies.

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 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. Christopher Brooks 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 Study; Art G. 231, Basic Photography (Motion Picture); Eng. 307G and 308G, 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.

Geography
Only courses 201 and 235 are intended as physical science courses. All other geography courses are intended as social science offerings.

Geography Minor. A minor in geography consists of at least 15 hours including Geog. 125Q or 201 or the equivalent.

Lower-Division Courses
>125Q, Principles of Human Geography. (3). General education introductory course (social science). An introductory course examining the development of human and cultural landscapes.

150, Workshop in Geography. (1-4). Short-term courses focusing on geographical problems. Prerequisite: instructor's consent.

>201, Physical Geography. (3). 2R; 3L. Lab fee. General education introductory course (natural science). Emphasizes the physical basis of geography, including climate, terrain, soils, landforms and the seas; economic resources; cartographic elements; introduction to regional studies. Field trips are required at the option of the instructor.

>210Q, Introduction to World Geography. (3). General education introductory course (social science). 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. Prerequisite: instructor's consent.

Course 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). General education further studies course (social science). Physical, political, economic, historical, and human geography of the United States and Canada.

530, Geography of Latin America. (3). General education further studies course (social science). Physical, political, economic, historical, and human geography of Latin America.

542, Geography of Europe. (3). General education further studies course (social science). 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.

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 intramural 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 is given upon demand and may be repeated 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 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. Prerequisite: instructor's consent.

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 is available. Contact the Department of Geology for further information.
The geology program emphasizes field and laboratory skills in sedimentology, geochemistry, palaeontology, palaeoclimatology, structure and geophysics, mineral and fuel resources, and related fields. Attention is directed to solving problems of local and global perspective related to earth systems and environmental analysis.

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 are also recommended in high school.

**Geology Major.** A major with the BA requires a minimum of 33 hours in geology, including the following:

1. Geol. 111Q, General Geology
2. Geol. 312, Historical Geology and Stratigraphy; 320, Mineralogy; and 324, Petrology
3. Geol. 526, Sedimentary Geology; 544, Structural Geology; 581, Numerical Geology
4. Eleven additional hours of upper-division geology electives or other sciences with prior written approval of the department.

Required supporting sciences for the BA degree are:

1. Any approved course in biological sciences or Anthr. 505
2. Any one of the following groups
   a. Chem. 111Q or 123Q, and Phys. 213Q and 214Q (or 315Q and 314Q and 316Q)
   b. Chem. 111Q and 112Q (or 123Q and 124Q) and Phys. 213Q or 315Q and 315Q
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 Anthr. 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; Anthr. 613 or 711; any physics course that has a prerequisite of Phys. 214 or 314; any chemistry course that has a prerequisite of Chem. 111Q 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 minoring in geology consult with the department in selecting courses most appropriate to their major field of study.

**Nonmajor and Nonminor Students.** A non-major or nonminor student who wishes to achieve the broadest terminal background knowledge of geology is advised to take Geol. 111 Q, 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. (8). Study of the physical environment and environmental education—the educational process concerned with man's relationship with his natural and man-made 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. General education introductory course. A study of the processes that shape 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; and natural environmental hazards. Geol. 102 (4) 3R; 2L is recommended for students desiring general education credit for a natural science laboratory experience. Credit not allowed in both Geol. 102 and 111Q.

111Q. General Geology. (4). 3R; 2L. General education introductory course. An overview of the earth, the concepts of its origin, composition, materials, structure, landforms and history; and natural processes operating to create the earth's physical environment. May require field trips into the earth laboratory. Credit not allowed in both Geol. 102 and 111Q.

150. Workshop. (1-4). Short-term courses focusing on geological problems. Prerequisite: instructor's consent.

**Upper-Division Courses**

300G. Energy, Resources and Environment. (3). General education issues and perspectives course. 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. General education further studies course. A general survey of the physical environment, including elements of geology, geography, meteorology, climatology, oceanography and astronomy. May require field trips.

310. Oceanography. (3). General education further studies course. 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). General education further studies course. 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. General education further studies course. 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. 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.

410. Honors in Geology. (3). Senior thesis for departmental honors. The independent study project on a topic of the student's choice must be original research or creative work. Repeatable to a maximum of six credit hours. Prerequisite: acceptance by the Emory Lindquist Honors Program and departmental approval.

430. Field Studies in Geology. (2-6). Off-campus systematic field study in a selected area of geologic significance. Course is given upon demand and may be repeated for credit when locality and content differ. Where appropriate, travel, lodging and board costs are charged.

**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;
561. Regional Geology of the United States. (3). A detailed regional survey of the general geology, geomorphology, stratigraphy and structural geology and their interrelationship in 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. Prerequisites: Geol. 111Q, Geol. 201 or equivalent.

567. Biogeology. (3) 2R; 3L. General education further studies course. Systematic survey of major fossil biogeological materials, analysis of the origin and evolution of life and palaeoecological interpretation of ancient environments and climates. Includes hand lens and binocular microscopic examination of major fossil biogeological materials. Includes application of analogized fossil data to the solution of problems in biogeochronology, paleoecology, paleoclimatology and palaeogeography. Cites examples from fields of invertebrate, vertebrate and micropaleontology, and palynology. May require museum and field trips. Prerequisite: Geol. 312 or 552.

568. Numerical Geology. (3) 2R; 3L. Introduce 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/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 355 recommended or instructor's permission.

569. Geomorphology and Land Use. (3). General education further studies course. Identification and analysis of their geomorphic 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 structural geology and their interrelationships in the United States. Requires field trips (instructor's option). Prerequisite: Geol. 560 or instructor's consent.

621. Geochronal Cycling. (3). The chemistry of earth materials and the important geochronal processes; cycles operating on and within the atmosphere, hydrosphere and lithosphere through time; anthropogenic effects on these 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 geological 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.

640. Field Geology. (6). Field investigation of sedimentary, igneous and metamorphic rock units and their structures. Includes the application of mapping techniques and methods in solving geologic problems. Held at an 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. Prerequisites: 12 credits of advanced geology or instructor's consent.

641. Geoscientific Presentation. (2). Essential elements of effective communication of geoscience 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. 312, 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.


678. Geologic Perspectives on Climatic Change. (3). Modern climate and climatic change; and analysis of climatic deterioration: systematic study of geologic evidence of climatic change through time. Emphasis on theoretical causes, feedback mechanisms, and recognition of effects on climate perturbations in the rock record. Prerequisite: Geol. 312.
706. Environmental Science Internship. (3-6). Cross-listed as Biol. 706 and Chem. 706. Students in the master's of environmental science program may gain interdisciplinary skills in environmental science by participating in applied and/or basic research internship projects with local businesses, industry, or government agencies. Internship options are an alternative to thesis research for degree requirements. Enrollment in internship projects requires an approved proposal. Completion of an internship for graduation requires a formal oral presentation and a written report. Prerequisites: completion of Environmental Science I and II.

720. Geochemistry. (3). The chemistry of natural aqueous solutions and their interaction with minerals and rocks; thermodynamics and kinetics of reactions; emphasizes application to sedimentary environments and environmental problems. Requires some laboratory work. Prerequisites: Geol. 324 and Chem 112Q or instructor's consent.

724. Soils. (3). Geologic analysis of soil types, their formation, occurrence, and mineralogy; soil management and conservation; environmental aspects of soil occurrence including stability studies, pollution, and reclamation.

726. Carbonate Sedimentology. (3). 2R; 3L. The origin and genetic description of carbonate particles, sediments and rocks, mineralogy and textural classifications; depositional environments in carbonate rocks and analysis of modern and ancient depositional system. May require field trips. Prerequisites: Geol. 526, 552 or equivalents.

727. Carbonate Diagenesis. (3). 2R; 3L. An in-depth analysis of diagenesis of carbonate sediments and rocks. Includes mineralogic stability in natural waters, meteoric, marine and deep-burial diagenesis, dolomitization processes and products; trace-elements and isotopes as diagentic tools, cathodoluminescence and x-ray diffraction studies of carbonates; origin and porosity. Prerequisites: Geol. 520 (unless waived by instructor) and 726.

730. Perspectives: Geoscience and the Environment. (3). A perspective of global issues of geo-environmental concern with regard to past, present, and future exploitation, use, and availability of earth's resources; marine and terrestrial pollution and resource use; water, minerals, and fuel resources; popular geoscience and the media; geophysical monitoring, the greenhouse effect, global climatic change, and sea level rise and their effects on populations; future trends in environmental management and remediation of environmental problems of geologic scope. Prerequisite: Geol 312, 680; or instructor's consent.

740. Basin Analysis. (3). A practical course in analysis of petroleum-bearing or other sedimentary basins; emphasizes detailed subsurface mapping to model depositional, tectonic and burial history of sedimentary basins; subsurface lithologic and geochemical sample analysis and evolution of sedimentary facies systems and hydrocarbons maturation history. Includes completion of a major data set to determine geologic evolution of basins. Prerequisites: Geol. 682, 684 or instructor's consent.

745. Advanced Stratigraphy. (3). Analysis of stratigraphic sequences at the local to global scales in terms of sequence stratigraphic concepts and high-resolution interpretation of depositional sequences (from outcrop and subsurface data); seismic sequence stratigraphy, and significance of unconformities in sequence identification and development; local to global correlation of sequences and sea level history through time; cratonic sequences of North America. Required 7-day field trip. Prerequisites: Geol. 312, 526, and 726.

750. Workshop in Geology. (1-3). Short-term courses with special focus on geological problems. Prerequisites: graduate standing and/or instructor's consent.

751. Advanced Geochemistry. (3). Integrations of practical and theoretical coverage of subsurface fluid flow as applied to shallow aquifers. Cover the mass transport in both the saturated and vadose zones as well as the occurrence and movement of non-aqueous fluids. Topics include cover groundwater quality, sources of groundwater contamination, retardation of contaminants, retardation and attenuation of dissolved solids and the response of inorganic and organic substances to subsurface aqueous and framework chemistry. Computer simulation models used whenever practical along with detailed analysis of case histories, including those related to environmental geoscience. Prerequisite: Geol 650, 681, Math 344 or instructor's consent.

760. Exploration Geophysics. (3). An introduction to the theory and application of geophysical techniques for hydrocarbon, mineral, and groundwater prospecting. Topics include use of seismic techniques; instrumentation for acquisition on land and sea; seismic processing; structural and stratigraphic modeling; 3-D seismic exploration; and seismic refraction techniques. Prerequisite: completion of geology undergraduate math and physics requirements; Math. 344 or 555; Geol. 324 and 544; and instructor's consent.

781. Advanced Numerical Geology. (3). Involves practical implementation of algorithms and computer code. Includes the analysis of multivariate techniques and the development of the computer/algorithms needed to handle very large databases. Topics include standard statistical approaches to data analysis; treatment of applied linear algebra and matrix theory; and the application of linear and non-linear discriminate analysis, various factor analytic techniques, hard and fuzzy clustering, linear and non-linear unmixing analysis, and other forms of data modeling. Prerequisite: Geol. 681 or equivalent, competence in one or more high level computer languages, Math 344 or 555, and instructor's consent.
Courses for Graduate Students Only

800. Research in Geology. (3, 9L) Research in special areas of geology: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geology, (g) sedimentation, (h) stratigraphy, (i) geophysics and (k) petroleum. Requires a written final report. Prerequisite: consent of sponsoring faculty.

808. History of Geology. (1-3). Selected events and personalities in geology that have led to our present understanding of geology's place in science. Prerequisite: instructor's consent.

810. Advanced Graduate Studies in Geology. (1-6). Systematic study in a selected topic of professional or applied geology. Course given upon demand and may be repeated for credit when content differs. May require field trips. Prerequisites: graduate standing, instructor's consent and two years of professional postgraduate practice in geology.

821. Special Studies in Geochemistry. (3). A systematic study in selected areas of geochemistry. Content differs upon demand to provide in-depth analysis in fields of (a) sedimentary carbonate and silicate geochemistry and mineralogy, (b) organic geochemistry, (c) high-pressure and temperature thermodynamics of earth materials, (d) exploration geochemical geochemistry, (e) exogenic geochemical cycling, (f) stable isotope geochemistry. May be repeated for credit to cover all six areas listed. May require some laboratory work. Prerequisite: Geol. 720 or instructor's consent.

823. Igneous and Metamorphic Petrology. (3, 1R; 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 geochronal analyses. May require field trips. Prerequisite: Geol. 520.

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 (or 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 estimates, shallow aquifer geophysical modeling, geophysical basin modeling, and regional and global environmental modeling. Prerequisites: Geol. 581, 760; Math. 344 or 555; or instructor's consent.

870. Advanced Biogeology. (3, 2R; 3L) Paleontological reconstruction of ancient plant/animal communities and environments emphasizing community structure, biostatigraphy, 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 chronostratigraphic techniques, modeling global phenomena, and simulations of multi-phase flow 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 Urban and Public Affairs, Hugo Wall School of.

History

The major in history provides a program that is varied and flexible enough to answer the need for an integrated, liberal education. In combination with courses in other disciplines, it 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 33 hours, including 3 credit hours of either Hist. 100G, 101G, or 102G, and 3 credit hours of either Hist. 131Q or 132Q. Additionally, all history majors must complete Hist. 200 and 698. A minimum of 15 additional upper-division hours, including at least one upper-division course in each of the following areas: ancient and medieval, modern European, or American history (including Latin America).

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 advisor 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). General education introductory course. 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). General education introductory courses. 101G: prehistory to 1648. 102G: 1648 to the present.

106Q. The Way it Was: Western Civilization in Film. (3). Selected topics in the history of Western civilization on topic(s) dealt with in films from the 17th century to the present. Open to history majors or to those with credit in Hist. 101G and 102G.

110. Russian Studies. (3). Cross-listed as Russ. 110 and Pol. S. 110. Team-taught by faculty from history, political science, and modern and classical languages and literatures. Prepares students wishing to pursue additional courses and/or programs in Russian history, Russian language and literature, Russian government and politics, and/or international relations, including business. Covers medieval, czarist, Soviet, and present day (post-Soviet) Russia.

>131Q & >132Q. History of the United States. (3 & 3). General education introductory courses. 131Q: survey from the colonial period to 1865. 132Q: survey from 1865 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 Anthr. 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 sidelines 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.

222. East Asia. (3). Cross-listed as Pol. S. 222, LAS-I 222Q and Rel. 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.

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


310. Special Topics in History. (2-3). Repeatable twice for credit. Prerequisite: departmental consent.

>311 & >312. History of Latin America. (3 & 3). General education further studies courses. 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). General education further studies courses. 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.

315. Modern German History. (3). Surveys German history from the end of the Napoleonic era in 1815 to the fall of the Berlin Wall in 1989.

316. The Jewish Experience in Christian Europe. (3). Introductory survey course. Exposes students to some of the main themes in the history of Jewish civilization in Western culture and society from the early Middle Ages to the present.

>317. The Holocaust. (3). General education further studies course. Investigates the conditions within European society which lead to and ultimately culminated in the murder of approximately 6 million Jews.

>320. Russian History Survey. (3). General education further studies course. A survey of Russian history from 862 A.D. to the present.

>321. The Viet Nam Conflict. (3). General education further studies course. Examines the Viet Nam conflict, beginning with the French experience and ending with the final battles in 1975.

>324. Modern East Asian History. (3). General education further studies course. A comparative survey of the modern era in the history of China and Japan from approximately 1800 to the present. Considers indigenous and external factors for the political, economic, and social developments of these societies, as well as their current roles in international affairs.


>340. World War II. (3). General education further studies course. An introduction to the background and causes of World War II, as well as the military, diplomatic, economic, psychological and scientific dimensions of the war. Considers the legacy of the war in light of the postwar world.

>357. Women in the Ancient World. (3). General education further studies course. Examines the myth and realities of women's lives in the traditional societies of ancient Greece and Rome. Explores how women's social and economic roles varied from culture to culture and how they changed over time from the age of primitive matriarchy to the Christian era. Investigates the influence of these cultures on our own.

>359. The Greek World. (3). General education further studies course. Surveys Greek history and culture from the Minoans to the Roman Conquest.

>362. The Roman World. (3). General education further studies course. Surveys Roman history and culture from the Etruscans to Constantine the Great, the first Christian emperor. Examines the history, social structure, and economy of Rome and the Roman world to answer the questions: what made Rome great and what led to her eventual decline. Includes warfare, slavery, and family life.

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). General education further studies course. Colonization of the New World emphasizing the British colonists and their development.

>502. The American Revolution and the Early Republic. (3). General education further studies course. Examination of selected phases of the revolutionary, confederation and federal periods.

>503. The Age of Jefferson and Jackson. (3). General education further studies course. 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). General education further studies course. A study of the origins and military events of the American Civil War and the political and social ramifications of the conflict.

>505. America's Gilded Age, 1877 to 1900. (3). General education further studies course. 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). General education further studies course. Examines political, social, and economic issues from the Progressive Era through World War II.

>508. The United States: the 20th Century, Since 1945. (3). General education further studies course. The history of the United States from the Truman through the Nixon administrations.

511. Women in Early America, 1600-1830. (3).

512. Women and Reform in America, 1830-present. (3).

515. Economic History of the United States. (3). Cross-listed as Econ. 627.

>516. History of American Business. (3). General education further studies course. 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.

>517 & >518. Constitutional History of the United States. (3 & 3). General education further studies courses. 517: the evolution of the American constitutional system from English and colonial origins through the Civil War. 518: American constitutional development from Reconstruction to the present.


525. American Military History. (3). General education further studies course. A history of the military in America, from the colonial period to the present, emphasizing warfare and military institutions and their impact on American social, economic and political traditions.

>528. History of Wichita. (3). General education further studies course. A history of Wichita.
ta, 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.


S51. American Environmental History. (3). General education further studies course. 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.

S52. Women in Ethnic America. (3). General education further studies course. Cross-listed as Min. S. 532 and Wom. S. 532. An in-depth, thematic understanding of the historical experiences of women of color across space and time in U.S. history. Employing a female-centered framework of analysis, course probes the intersections of race, class, gender, and sexuality in women's lives.

S53. The American City: from Village to Metropolis. (3). General education further studies course. 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.

S54. History of the Old South. (3). General education further studies course. Examination of Southern civilization prior to the American Civil War.

S55Q. History of Kansas. (3). General education further studies course. History of the Kansas region from Spanish exploration to the present, emphasizing the period after 1854.

S56. Survey of American Indian History. (3). General education further studies course. Surveys the history of Native American nations from prehistoric times to the present. Includes the process of European colonization and indigenous responses; the strategies of accommodation, assimilation, and resistance; and the resurgence of tribalism in the 20th century.

S57. The Trans-Mississippi West. (3). General education further studies course. Spanish, French and Anglo-American penetration and settlement west of the Mississippi River from the 16th century to about 1900.

S58. The American West in the Twentieth Century. (3). General education further studies course. 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.

S59. Modern France. (3). General education further studies course. 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.

S60Q. Neither War Nor Peace: The World Since 1945. (3). General education further studies course.

S61. History of Mexico. (3). General education further studies course. Pre-Columbian Mesoamerica; the Spanish conquest and the colonial period; the independence movement; Juarez, the Reform and the French intervention; the Porfirato; the Mexican Revolution; Mexico in recent years.

S62. The Ancient Near East. (3). General education further studies course. Political and cultural history of ancient Mesopotamia, Iran, Egypt, Palestine, Syria and Asia Minor to the death of Alexander the Great.

S63Q & S60. Greek History. (3 & 3). General education further studies courses. S63Q: The Hellenic world from prehistoric times to the end of the Peloponnesian War, 560: the 4th century and the Hellenistic period.


S65 & S66. Medieval History. (3 & 3). General education further studies courses. S66: the history of Europe from the fall of the Roman Empire through the Crusades, 500 to 1200, 567: history of Europe, 1200 to 1500.

S68. Social, Economic and Intellectual History of the Middle Ages. (3). Examines the fundamental themes in the development of the social, economic, and intellectual history of the Middle Ages, emphasizing the rise of cities, universities, scholastic thought, diverse patterns of daily life, and economic activities of the Middle Ages.


S70. History of Christianity. (3).

S71Q. The Italian Renaissance. (3). General education further studies course. Italian history from the 14th through the 16th centuries emphasizing cultural achievements.

S72. The Reformation. (3). General education further studies course. Cross-listed as Rel. 476. The great religious changes in the 16th century in the political, social and intellectual contexts.

S73. Europe, 1815-1870. (3). General education further studies course.

S74. Europe, 1870-1945. (3). General education further studies course. Surveys European history from 1870 to 1945.

S75. Europe, 1945-Present. (3). General education further studies course. A survey of European history from 1945-present.

S76. History of Early Russia. (3). Covers the social, political, and cultural history of Kievan and Muscovite Russia.

S77. History of Imperial Russia. (3). Covers the political cultural and social history of Imperial Russia.

S78. History of the Soviet Union. (3). General education further studies course. A survey of Soviet history from the Bolshevik Revolution to the present.

S79. Former Soviet Union. (3). General education further studies course. An examination of contemporary life in the former USSR: historical background, Marxist/Leninist ideology, industrial and agricultural economies, roles played by women, national minorities and dissidents in Soviet society, the press, literature and art, health care, and prospects for the country's future.

S80. European Diplomatic History. (3). General education further studies course. European international politics and diplomatic practices, emphasizing the actions of the great powers and their statesmen. Versailles settlement, totalitarian aggression, appeasement, World War II, the cold war and decolonization of Southeast Asia and the Middle East as prelude to major power involvement.

S81. Economic History of Europe. (3). Cross-listed as Econ. 625. An analysis of the development of economic institutions, the rise of capitalism and its influence on economic, political and cultural changes; economic ideologies; and cultural effects of economic change. Prerequisites: Econ. 310Q and junior standing.

S82. Hitler and the Third Reich. (3). The establishment and collapse of the Weimar Republic, the rise and fall of Hitler's Third Reich, the divided Germany of the present and the role of each in world affairs, 1914 to the present.

S83. Germans and Jews. (3). The history of antisemitism in central Europe, 19th and 20th centuries.

S84. Media Courses in History. (2-3). Courses created or coordinated by the Department of History, offered through various media: radio, television and newspaper. Areas of historical emphasis vary. Repeatable with instructor's approval; however, three hours maximum credit will apply towards MA degree in history.

S85. Historiography. (3). Review of the major schools of historical thought, philosophies of history and eminent historians from the ancient world to the present. Required of history majors.

S86. Introduction to Public History. (3). Introduces the various areas of public history including historic preservation, archival administration, museum studies, litigation support and corporate history. Students learn the philosophies, techniques and practices that comprise the field and ways these areas interact with their academic training. Prerequisite: graduate standing or instructor's consent.

S87. Historic Preservation. (3). Advanced survey of the multifaceted, multidisciplinary field of historic preservation. Presents a broad and sophisticated view of the many areas of preservation in the U.S., as well as the numerous opportunities available to trained professionals in the field. Prerequisite: Hist. 701 or instructor's consent.

S88. Museum Administration. (3). Addresses the many facets of museum administration from a specialist's point of view. Covers col-
Lecturing, management, law and ethics, and resource development. Gives a close view of the operations of American museums. Prerequisite: Hist. 701 or instructor's consent.

704. Interpreting History to the Public: Explaining the Past. (3). Looks at ways history can be communicated to audiences, including scholarly texts, popular written histories, movies, videos, guidebooks, museums and other similar media. Explores the differences between various forms of historical communication and assesses the way they reach audiences. Students learn to discern various components of historical texts to use in the design of interpretation materials on their own. Prerequisite: Hist. 701 or instructor's consent.

705. Introduction to Archives. (3). Introduce the basic knowledge, theory and related skills of archival administration, including the nature of information, records and historical documentation; the role of archives in modern society; and issues and relationships that affect archival functions. Learn the theory and skills necessary to understand and apply basic archival functions. Prerequisite: Graduate standing and/or instructor's consent.

725. Advanced Historical Method. (3). Reviews basic historical research methods, the general character of field bibliographies and recent interpretations and the techniques of professional narrative development. Required of graduate degree students during their first year of enrollment. Prerequisite: departmental consent.

727. Readings in History. (3). Readings in ancient, medieval, modern, European and American field bibliographies. Repeatable for credit. Prerequisite: departmental consent.

729. Seminar in American History. (3). Repeatable for credit. Prerequisite: departmental consent.

730. Seminar in American History. (3). Repeatable for credit. Prerequisite: departmental consent.

733. Seminar in European History. (3). Repeatable for credit. Prerequisite: departmental consent.

734. Seminar in European History. (3). Repeatable for credit. Prerequisite: departmental consent.

750. Workshop in History. (1-3). Repeatable for credit but does not satisfy requirements for History majors.

781. Cooperative Education in History. (0-2). Graduate history students participate in internship experiences funded through the Cooperative Education programs. Augments Hist. 803. Prerequisite: instructor's consent.

Courses for Graduate Students Only


802. Thesis. (2).

803. Internship in Public History. (1-2), Public History students practice their skills in summer or semester internships. Type and level of responsibility vary depending on student's interests and work setting. Internship should be in area related to student's MA thesis. Prerequisite: Hist. 701 and consent of public history faculty.

810. Special Topics in History. (1-3). Open only to graduate students. Repeatable for credit to a maximum of six hours.

865. State and Local Government Finance. (3). Cross-listed as Econ. 865 and P. Adm. 865. An analysis of state and local government expenditure and revenue systems, with an introduction to state and local financial administration. Prerequisites: Econ. 765 or instructor's consent.

Interdisciplinary Liberal Arts and Sciences Program

Lower-Division Courses

100. Freshman Seminar. (1). A study of the University as a resource for personal development and the development of an individual master plan for study and self-development in the University. Offered Cr/NC only.

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

100P. Parents' Course. (1). Studies 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. Offered Cr/NC only.

101. Introduction to the University. (3). Helps students make connections with academic programs, faculty, staff, and other students; develop required academic and career competencies; and make sense of the higher education environment.

102. Topics in Career Exploration. (2). Involves students in the career/life, educational and decision-making process 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. Offered Cr/NC only.

150. Workshop: Special Topics. (1-3). Meets identified needs of specific audiences. Offered Cr/NC only.

190. Inquiry in Liberal Arts and Sciences. (3). Introduces the liberal arts and sciences as the foundation of the university education. Team taught by faculty from the humanities, social sciences, and natural sciences. Topics of general interest from various disciplinary perspectives and ways of knowing. Students gain insights which may guide them towards majors, areas of concentration, and their own pursuit of understanding.

191. 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.

192. 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.

>220Q. East Asia. (3). General education issues and perspectives course. Cross-listed as Hist. 222, Pol. S. 222 and Rel. 222Q. A survey of basic topics on China, Korea and Japan, covering the period from 5000 B.C. to the present, including geography, prehistory, history, culture, anthropology, society, philosophy, religion, politics and the economics of each country. 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

>350C. Global Issues. (3). General education issues and perspectives course. Taught by faculty from many colleges and disciplines. Emphasizes challenges in the global village. May include peace and war, energy, social equality, the arts and technology, poetry and power, cultural differences, genetics, economic strategies, the environment, and health and education. May be applied to any of the disciplines of the humanities, social sciences, and natural sciences.

390. Liberal Arts and Sciences: Issues and Perspectives. (3). Offers an opportunity to consider personal, intellectual, and social issues and perspectives engaging in interdisciplinary strategies employed by a team of collaborating faculty from the humanities, social sciences, and natural sciences. Prerequisites: completion of basic skills courses and at least three introductory courses from fine arts, humanities, social and behavioral sciences, and natural sciences included in the General Education Program. This Issues and Perspectives course can be applied to any of the disciplines of the humanities, social sciences, and natural sciences.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar which allows a student traveling abroad to gain credit for the study of culture, art, literature, and political, social, scientific, and economic conditions while visiting historic places of interest. Students may enroll under the direction of a faculty member in any department in Fairmount College of Liberal Arts and Sciences.

480. National Student Exchange. (12-18). The National Student Exchange program encour-
ages students to attend another university for a semester while retaining full-time student status and paying in-state tuition at WSU. All course work from the selected university will be transferred to Wichita State at the end of the exchange semester. At that time, the transfer course will replace the WSU hours, with only the National Student Exchange designation remaining on the transcript. This enrollment designation documents the full-time status and the tuition payment of the student enrolled in the National Student Exchange program for the duration of the residence at the collaborating university. Repeatable for credit one time.


Courses for Graduate Students Only

800. Research Goals and Strategies. (3). Introduces the methodology and practice of interdisciplinary research. Emphasizes the integration of methods native to the humanities, social sciences, and natural sciences. Develops skills required for the writing of research papers and theses. Required of all students in the Master of Arts in Liberal Studies program. To be taken during the first 12 hours of course work.

875. Thesis. (1-6). For students who are finishing the Master of Arts in Liberal Studies (MALS). The student writing a thesis is enrolled in this course until the thesis is completed and all thesis requirements have been satisfied. Prerequisite: consent of student’s degree committee chairperson and instructor.

885. Terminal Project. (2-6). For students who are near the end of their MALS program and involved in a terminal project. The terminal project may have many aspects such as field work, practicum, internship research report, or any other individualized activity, but the scope of it must be established by the student’s advisory committee. The student involved in a project must be enrolled in this course until the project is completed and all project requirements have been satisfied.

Italian, Japanese, Latin
See Modern and Classical Languages and Literatures.

Liberal Studies

WSU offers an interdisciplinary Master of Arts in Liberal Studies (MALS) degree program for people who wish to pursue a particular topical or interdisciplinary interest at the graduate level, but find the existing programs either too specialized or insufficiently individualized. The liberal studies program offers students an opportunity to design a program of study to answer their particular needs and interests in a focused, coherent manner. For more information, consult the WSU Graduate Bulletin.

Linguistics

There is no major in linguistics, however, an emphasis in linguistics is available through the general studies program or a Bachelor of Arts degree field major plan. Minor. A minor in linguistics consists of 15 hours from the following courses. At least six hours must be taken from Group A.

Note. Courses applied toward another major or minor will not apply toward a minor in linguistics.

Group A—Basic Linguistic Theory

Lower-Division Course

>151G. The Nature of Language. (3). General education introductory course. 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 Courses


315. Linguistics. Introduction to English Linguistics. (3). Cross-listed as Eng. 315. General education further studies course. Introduces linguistic principles, including phonological and grammatical concepts.

316. English Sentence Structure. (3). Cross-listed as Eng. 316. The basic rules of English syntax, specifically designed for prospective teachers of English but open to all students interested in English sentence structure.


Courses for Graduate/Undergraduate Credit

667. Linguistics. English Syntax. (3). Cross-listed as Eng. 667 and Anthr. 667. Studies the basic principles of English syntax, covering the major facts of English sentence construction and relating them to linguistic theory. Prerequisite: Ling. 315 or equivalent or departmental consent.

672. Linguistics. Studies in Language Variety. (3). Cross-listed as Eng. 672. Introduces the study of language variety, emphasizing regional and social dialect in America and methods of studying it. May be repeated for credit when content varies. Prerequisite: Ling. 315 or departmental consent.


682. Linguistics. Structure of a Selected Non-Indo-European Language. (3). Language offered depends on student demand and availability of staff. Course 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.


610. English. Old English. (3). Cross-listed as Eng. 610. Studies the Old English language in enough detail to enable the reading of some prose and poetry, including parts of Beowulf in the original. Some literature, including all of Beowulf, is read in translation, with attention to important literary and cultural features of the period.

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

Upper-Division Courses

301. Philosophy. Language and Philosophy. (3). Cross-listed as Phil. 301.

304. CDS. Developmental Psychological Linguistics. (3). Cross-listed as CDS 304.

325. Philosophy. Formal Logic. (3). Cross-listed as Phil. 325.

Courses for Graduate/Undergraduate Credit


727. Teaching English as a Second Language. (2-3). Cross-listed as Eng. 727. Discusses current methods of teaching English to non-native speakers. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use.

study. With departmental consent, the course is repeatable for credit.

Others

Lower-Division Course

292. Linguistics. Special Studies. (2-3). Topic selected and announced by individual instructor. Credit is assigned to Group A, B or C depending on content. Repeatable for credit when content varies.

Courses for Graduate/Undergraduate Credit

590. Linguistics. Special Studies. (2-3). Topic selected and announced by individual instructor. Credit is assigned to Group A, B or C depending on content. Repeatable for credit when content varies.


Mathematics and Statistics

Mathematics

Mathematics is among the oldest disciplines. Throughout history, mathematics has spanned the spectrum from pure to applied areas. The ancient Greek mathematicians were interested in problems that ranged from properties of numbers to applications of mathematics to music and astronomy. The Department of Mathematics and Statistics fulfills its mission by offering a broad and representative collection of courses to give students the ability to select, with their advisor, a program that fits their needs and goals. The Department of Mathematics and Statistics offers bachelor (BA and BS), master's (MS), and doctoral (PhD) degrees.

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, 547, 551, 555
Group A: Math. 513, 615, 621, 690, 720, 725
Group B: Stat. 460, 571, 572, 574, 576, 761, 762, 763, 771, 772, 775, 776
Group C: Math. 530, 545, 553, 640, 657, 714, 751, 753, 755,

Major.* For the Bachelor of Arts (BA) degree with a major in mathematics, students must complete all courses in Group R plus Math. 531 and two additional courses from those listed in Groups A, B, and C.

For the Bachelor of Science (BS) degree in mathematics, students must complete all courses in Group R and one each from Groups A, B, and C. In addition, the BS candidate must complete two additional courses from those listed in Groups B and/or C.

For the Bachelor of Science (BS) degree in mathematics with emphasis in statistics, students must complete all courses in Group R, one course in Group A, and one course in Group C. In addition, the BS candidate must complete 12 additional hours of courses in Group B which must include either Stat. 571-572 or Stat. 771-772, plus one more course from Groups B or C. 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 advisor on any of these programs.

Minor. For a minor in mathematics, students 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.

*All bachelor degrees in mathematics require a high-level algorithmic computer language such as FORTRAN or Pascal.

Noncredit Courses

007. Arithmetic. (3). Offered Cr/NCr only. A review and study of the basic arithmetic operations for the mature student whose previous training in arithmetic is inadequate for completion of college mathematics courses.

011. Beginning Algebra. (5). Offered Cr/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 department placement exam. Not applicable to degree.


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). Elementary topics in mathematics of interest to persons in other fields. Especially for persons majoring in nontechnical fields. No credit toward a major or minor in mathematics.

>111. College Algebra. (5). General education basic skills course. A survey of functions, theory of equations and inequalities, complex numbers, the trigonometric functions, exponential and logarithmic functions, and some 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. Prerequisite: Math. 012 or two years of high school algebra, one unit of high school geometry and qualifying score in recent departmental placement exam. Credit is allowed only in one of the two courses Math. 111 and Math. 112.

>112. Precalculus Mathematics. (5). General education basic skills course. Functions, theory of equations and inequalities, complex numbers, the trigonometric functions, exponential and logarithmic functions, and some 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. Prerequisite: Math. 012 or two years of high school algebra, one unit of high school geometry and qualifying score in recent departmental placement exam. Credit is allowed only in one of the two courses Math. 111 or Math. 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.

131. Contemporary Mathematics. (3). General education basic skills course for students majoring in non-technical areas. A collection of applications of mathematics illustrating how contemporary mathematics is used in the decision-making process. Covers topics selected from such areas as the mathematics of social choice; management science; statistics; coding information; and the geometry of growth, shape, and symmetry. Prerequisite: Math. 012 or two years of high school algebra and a qualifying score on a recent departmental placement examination.

144. Business Calculus. (3). General education introductory course. A brief but careful 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 elsewhere available in the curriculum. May be repeated for a total of six hours credit with departmental consent. Prerequisite: departmental consent.

211. Elementary Linear Algebra. (3). Covers topics in linear algebra together with elemen-
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 a 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). General education issues and perspectives course. Studies the development of mathematics from antiquity to modern times. Not for students in the sciences and engineering. Credit not allowed in both Math. 242Q and 444.

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.

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 computer use. Prerequisite: 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. Differential Equations I. (3). A study of first order equations including separation of variables and exact solutions, elementary higher order equations including the general theory of initial value problems, constant coefficients, undetermined coefficients, variation of parameters, and special methods of solution using power series and the Laplace transform methods. A standard course in differential equation for students in the sciences and engineering. Credit not allowed in both Math. 554 and 555.

560. Elements of Number Theory. (3). Studies properties of the integers by elementary means. Prerequisite: Math. 344 with C or better or departmental consent.

615. Elementary Number Theory. (3). Studies properties of the integers by elementary means. Prerequisite: Math. 344 with C or better or departmental consent.

621. Elementary Geometry. (3). Studies Euclidean geometry from an advanced point of view. Prerequisite: Math. 344 with C or better or departmental consent.

640. Advanced Calculus II. (3). A continuation of Math. 547. Prerequisites: Math. 511 and 547 with a grade of C or better in each.

655. Differential Equations II. (3). A continuation of Math 555 (but with more emphasis on theoretical issues) that covers higher order differential equations, systems of first order equations (including the basics of linear algebra), some numerical methods, and stability and behavior of solutions for large times. Prerequisite: Math. 555 with grade of C or better or departmental consent.

657. Optimization Theory. (3). Introduces selected topics in linear and nonlinear optimization. Develops the revised simplex method along with a careful treatment of duality. This extends the theory to solve parametric, integer and mixed integer linear programs. Prerequisite: Math. 511 with C or better.

690. Introduction to Mathematical Logic. (3). An axiomatic development of elementary mathematical logic through first-order logic culminating in theorems on completeness and consistency. Investigates connections with Boolean algebra, formal languages and computer logic. Prerequisite: Math. 415 or 511 with C or better or departmental consent.

713. Abstract Algebra I. (3). Treats the standard basic topics of abstract algebra. Prerequisite: Math. 513 with C or better or departmental consent.

714. Applied Mathematics. (3). Cross-listed as Phys. 714. A study of mathematical techniques applicable to physics and other sciences. Instructor selects topics, such as power series, infinite products, asymptotic expansions, WKBJ method, contour integration and residue methods, integral transforms, Hilbert spaces, special functions, and integral equations. Prerequisite: Math. 550 or instructor's consent.

720. Modern Geometry. (3). Examines the fundamental concepts of geometry. Prerequisite:
Mathematics 724. Topology I. (3). Studies the results of point set and algebraic topology. Prerequisite: Math. 547 with C or better or departmental consent.

725. Topology II. (3). Studies the foundations of analysis and the fundamental results of the subject. Prerequisite: Math. 640 with C or better or departmental consent.

743. Real Analysis I. (3). Includes a study of the foundations of analysis and the fundamental results of the subject. Prerequisite: Math. 640 with C or better or departmental consent.

745. Complex Analysis I. (3). Studies the theory of analytic functions. Prerequisite: Math. 640 with C or better, or departmental consent.

750. Workshop. (1-3). Topics appropriate for mathematics workshops that are not in current mathematics courses. May be repeated to a total of six hours credit with departmental consent. Prerequisite: departmental consent.

751. 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. Prerequisite: Math. 511, 547 and 551 with C or better in each, or departmental consent.

753. Ordinary Differential Equations. (3). Covers existence, uniqueness, and other qualitative theories of ordinary differential equations. Prerequisite: Math. 547 or 547C with C or better or departmental consent.

755. 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.

757. Partial Differential Equations for Engineers. (3). Includes Fourier series, the Fourier integral, boundary value problems for the partial differential equations of mathematical physics, Bessel and Legendre functions and linear systems of ordinary differential equations. Prerequisite: Math. 550 or 555 with C or better.

759. Complex and Vector Analysis for Engineers. (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. 743. Prerequisite: Math. 745 or equivalent.

846. 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.

851. Numerical Analysis of Ordinary Differential Equations. (3). Includes a study of numerical methods applied to fluid dynamics. Prerequisite: Math. 547 or 757.

854. Tensor Analysis with Applications. (3). After introducing tensor analysis, considers applications to continuum mechanics, structural mechanics, electromagnetism, fluid mechanics, and general relativity. 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. (1-3). Oral presentation of research in areas of interest to the students. Prerequisite: major standing.

881. Individual Reading. (1-9). 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. (3 &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 individual 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 BS degree with emphasis in statistics is offered as described under the mathematics section. Statistics courses satisfy general education requirements. As part of the 124 semester hours required for graduation, students may take up to 15 semester hours of statistics courses in addition to the 45 or 50 semester hours of course work allowed in mathematics.

Lower-Division Course

170Q. Statistics Appreciation. (3). A nonmathematical 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 traditional statistical methods and does not require any special knowledge of mathematics.

Upper-Division Courses

360Q. Elementary Probability. (3). Includes probability functions, random variables and expectation of finite sample spaces. Prerequisite: Math. 111 with C or better or equivalent.

>370. Elementary Statistics. (3). General education introductory course. 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.
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). General education further studies courses.

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.

581. Probability. (3). A study of axioms of probability, discrete and continuous random variables, expectation, examples of distribution functions, moment generating functions, characteristic functions, central limit theorem and other topics with applications to engineering. Prerequisite: Math. 344 with a grade of C or better.

582-583. 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, decision models (1-factor and 2-factor), analysis of covariance and components-of-variance models. Prerequisites: Math. 511 and Stat. 772.

584. 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.

585. 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. 763 with a grade of C or better or departmental consent.

586. 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, emphasizing 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. Prerequisite: Math. 743 and Stat. 761 or 771.


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-, 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 computer graphics techniques. Prerequisites: Math. 511 and Stat. 772 or 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 directed study in an 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 Urban and Public Affairs, Hugo Wall School of.
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 French and Spanish, as well as minors in German, Greek, Latin, and Russian; the Bachelor of Arts in Secondary Education with a major in French and Spanish; the Master of Arts in Spanish; and the Master of Arts in Liberal Studies with area concentrations in French, German, Greek, Latin, Russian, or Spanish.

A wide range of courses in language, literature, civilization, translation, and linguistics is offered on campus as well as in summer programs in Puebla, Mexico, and Strasbourg, France.

Graduate students in Spanish interested in applying for teaching assistantships and graduate research assistantships should consult with the graduate coordinator.

Study Abroad. Wichita State University has a special exchange program with Wichita's French sister city, Orleans, and with the University of Strasbourg. Through these programs, students pay their tuition and fees at WSU and do academic work in their chosen field at the French institutions. Students receive direct credit at WSU for all credit earned in Orleans, Puebla, and Strasbourg.

Scholarships. Various scholarships are available for study in French, German, Latin, and Spanish, including Puebla, Mexico.

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.

French

Major. A major in French consists of a minimum of 33 semester hours beyond Frn. 112 or its equivalent, and must include the following courses: Frn. 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 3.000 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 Frn. 112 and must include Frn. 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 advisor in the French department before enrolling in French courses.

Lower-Division Courses

111-112. Elementary French. (5-5). An introductory course emphasizing speaking, reading, writing and grammar essentials. Requires daily classroom and laboratory work.

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 grammatical forms and sentence structure based on classical French grammar and designed to improve proficiency in written expression through use of various tenses and turns of phrase in compositions assigned on a regular basis. Prerequisite: Frn. 112 or departmental consent.

223. Intermediate French Readings I. (3). General education further studies course. Intensive reading of French literary works of the modern period. Course may be used to meet the LAS literature requirement. Prerequisite: Frn. 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: Frn. 112 or equivalent.

Upper-Division Courses

300. Intermediate French Readings II. (3). General education further studies course. Intensive reading and analysis of French literary works of all periods. Course may be used to meet the LAS literature requirement. Prerequisite: Frn. 223 or equivalent.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following areas: art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit

Upper-division courses are given on a rotating basis. Prerequisite: Frn. 300 is a prerequisite for all upper-division literature and civilization courses, unless otherwise indicated. All literature courses, including Frn. 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 French, (h) civilization, (i) translation, (k) conversation...
525. Advanced Conversation. (3). Designed to increase proficiency in spoken French. Assignments include oral reports, dialogues, and work in the language laboratory. Prerequisite: Frnc 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). 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). 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. 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.

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. Prerequisite: Fren. 526 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. The major in German has been suspended. If you wish to major in German, contact the Department of Modern and Classical Languages and Literatures, 305 Jardine Hall, (316) 978-3180.

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 or 441Q.

Lower-Division Courses
111-112. Elementary German. (5-5). Introductory course emphasizing speaking, reading, writing and grammar essentials. Requires daily class room and laboratory work.

>220Q. Continuing German. (3). General education introductory course. 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). General education further studies course. 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 concurrent enrollment in 223.

Upper-Division Courses
324. Intermediate Conversation and Composition. (2). Emphasizes development of written skills as conversational practice continues. Prerequisite: Germ. 225 or instructor's consent.

341. German in the European Context. (3). General education issues and perspectives course. Selected topics on significant aspects of life and thought in Germany. Emphasizes the modern period with special attention to the interrelation of cultural trends in the European context. A knowledge of German is not required.

344Q. Intermediate German II. (3). General education further studies course. Readings in German civilization accompanied by extensive studies of selected literary works. Prerequisite: Germ. 223 or equivalent.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: departmental consent.

441Q. Culture of Contemporary Germany. (3). Study of the culture 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. 324 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, including the literature of East and West Germany, 1949-1989; (e) special topics in language, repeatable once for credit; (f) special topics in language, repeatable once for credit. Prerequisite: Germ. 344Q or instructor's consent.

750. Workshop in German. (2-4). Repeatable once for credit.

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.

224. Intermediate Greek. (3). General education further studies course. Homer's Iliad. Prerequisite: Greek 223.

250. Classical Mythology. (3). A study of the most important myths of the Greeks and Romans, includes the stories of creation, the gods and goddesses, the major heroes and important sages such as Achilles, Odysseus, and the Trojan War. Sources are mainly literary, e.g., Homer, Hesiod, Vergil, and Ovid, but also includes Greek art. All readings in English; requires no previous knowledge of Latin or Greek.

Upper-Division Course

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: departmental consent.

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 or minor in Italian but the following courses are offered.

Lower-Division Courses

111. Elementary Italian I. (5). Emphasizes the four fundamental skills in language learning: listening, speaking, reading, and writing. Requires daily classroom work. Prerequisite: departmental consent.

112. Elementary Italian II. (5). A continuation of Italian 111 further emphasizing the four fundamental skills in language learning and a complete presentation of elementary Italian grammar. Requires daily classroom and language laboratory work. Prerequisite: Ital. 111 or equivalent.

Upper-Division Course

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit

422. Intermediate Latin. (3). General education introductory course. 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). General education further studies course. Selected readings of prose and poetry. May be repeated for credit when the readings vary. Prerequisite: Latin 223 or departmental consent.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit

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 Augustan Rome and in the epic tradition.

434. 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 Democritean materialism. Gives consideration to the place of Lucretius in Latin poetry.

750. Workshop in Latin. (2-4). Repeatable for credit.

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

110. Russian Studies. (3). Cross-listed as Hist. 110 and Pol. S. 110. Team-taught by faculty from history, political science, and modern and classical languages and literature. Prepares students wishing to pursue additional courses and/or programs in Russian history, Russian language and literature, Russian government and politics, and/or international relations, including business. Covers medieval, czarist, Soviet, and present-day (post-Soviet) Russia.

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: Russ. 111 or equivalent.

>210Q. Intermediate Russian. (5). General education introductory course. Reading, grammar review and audiovisual presentations in Russian to enhance listening comprehension, speaking, writing, and basic writing skills. Prerequisite: Russ. 112 or equivalent.
224. Intermediate Russian. (3). General education further studies course. A continuation of Russian 210Q; further enhancement of listening comprehension and speaking, reading and writing skills. Prerequisite: Russ. 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: Russ. 112 or instructor's consent.

Upper-Division Courses

>300. Intermediate Russian Readings (3). General education further studies course. 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, phonetics, and morphophonemics, as well as the study and production of intonation contours (intonationsteue konstruktion). 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. (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, 222, 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, 635, 640, 650, and 750.

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, 222, 225, and three hours 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, Span. 300 plus 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 advisor 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.

200-219Q. Intermediate Spanish. (5). General education introductory course. Continues the four fundamental skills in language learning: understanding, speaking, reading, and writing. Emphasizes conversation and cultural readings. 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). General education further studies course. 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 program must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated. Prerequisite: Span. 223. Offered Cr/NCr only.

Upper-Division Courses

>300. Intermediate Spanish Readings. (3). General education further studies course. 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. 223 with continued emphasis on fluency in Spanish and on vocabulary building. Prerequisite: Span. 225 or departmental consent.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: 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. 905. 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). Offered fall semester only. Prerequisite: Span. 325 or departmental consent.

526. Advanced Grammar and Composition. (3). Offered spring semester only. 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). Content may vary from semester to semester, including Spanish and/or Latin-American literature. No knowledge of a foreign language is necessary. May be used to satisfy the general education literature requirement and may count toward a Spanish major or minor if readings and papers are done in Spanish and prerequisite of Span. 300 is met. Repeatable for credit.

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 English to Spanish. Prerequisite: Span. 526 or departmental consent.

620. Survey of Latin-American Literature. (3). Main currents of Latin-American literature from 1500 to 1800. Prerequisite: Span. 300 or departmental consent.

621. Survey of Latin-American Literature. (3). Main currents of Latin American literature from 1800 to present. Prerequisite: Span. 300 or departmental consent.

622. Special Studies. (1-4). Topic for study chosen with aid of instructor. Repeatable for credit. Prerequisite: instructor's consent.

623. Seminar in Spanish. (1-5). Special studies in (a) language, (b) Spanish and Latin-American literature, (c) Spanish and Latin-American culture and civilization and (d) methods of teaching Spanish in the elementary and secondary schools. Repeatable for credit. Prerequisite: departmental consent.

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 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 architecture, the arts, music and film industry. Prerequisite: Span. 300 or departmental consent.

650. South America: Its People and Cultures. (3). Study of the cultural development of South America, exploring the legacy of Indian cultures and the Spanish encounter in areas such as literature, the arts, music and film industry. Prerequisite: Span. 300 or departmental consent.

700. 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.

831. Seminar in Spanish Literature. (3). (a) Middle Ages, (b) Renaissance, (c) Golden Age, (d) Cervantes, (e) modern novel, (f) generation of '38, (g) romanticism, (h) 20th century poetry, (i) criticism, (j) literature, (k) 20th century theatre, and (l) contemporary Spanish novel.

832. Seminar in Latin-American Literature. (3). (a) colonial period, (b) contemporary novel, (c) short story, (d) poetry, (e) modernism, (f) essay, (g) theater, (h) Latin-American literature.

Philosophy

The study of philosophy is relevant to all aspects of life and can be pursued fruitfully at many levels. Philosophical thought may direct itself to such diverse topics as the nature of reality, the conditions of knowledge, the justifications for political authority, the reality of subatomic particles, the existence of God, the criteria of aesthetic evaluation, the structure of logical reasoning, and the foundations (if any) of morality. Because of the breadth of the philosophical enterprise, the study of philosophy can be approached from many directions and need not involve a hierarchy of prerequisites. Philosophy majors pursue many careers—teaching, law, medicine, city management, and sales. The philosophy department reflects the breadth and diversity of the philosophical enterprise and offers a wide variety of courses.

Major. A major requires a minimum of 27 hours of philosophy courses, at least 15 of which must be in courses numbered 300 or above. Each philosophy major must meet with a departmental advisor at least once a semester to plan or review a program of study. These programs are designed in terms of the individual student's interests and future plans. Up to 12 hours of philosophy courses taken before the decision to major in philosophy may count toward a major. Additional hours may be counted with the advisor's consent.

Minor. A minor consists of 15 hours of philosophy courses, selected in consultation with a departmental advisor, that orient students to the philosophic aspects of their major fields.

Lower-Division Courses

>100Q. The Meaning of Philosophy. (3). General education introductory course. An exploration of the meaning of philosophic activity. Through an examination of several basic interpretations of the distinguishing intentions, characteristic procedures and essential functions of the philosophic endeavor, course introduces some of the fundamental problems and possible values of philosophy. Develops a broad understanding of the meaning of philosophy as a diverse and self-critical historical enterprise.
129. University Experience. (3). An examination of the structure process and problems of university education in the contemporary setting. Attends especially to the personal, moral and spiritual problems and opportunities presented by the modern university experience. Provides clarification and guidance in understanding the university and in choosing one's own future.

150. Workshop in Philosophy (1-2). Short-term courses with special philosophical emphases.

Upper-Division Courses

300Q. Science and the Modern World. (3). General education issues and perspectives course. Develops an understanding of the methods and accomplishments of science and how these have affected the way people understand themselves, society and the universe. The approach is both historical, with respect to the re-creation of the pre-scientific world view and the developments of science, and analytic with respect to understanding the goals, methods and limits of contemporary science. No prerequisite but prior completion of general education requirements in science is desirable.

301. Language and Philosophy. (3). General education further studies course. Cross-listed as Ling. 301. Examines the relationships between philosophy and language. Focuses on questions such as: What is the relation between language and thought? Language and the world? What can the study of language contribute to the resolution of philosophical problems?

302. Values and the Modern World. (3). General education issues and perspectives course. An examination of the philosophical pressures on values wrought by rapid modern cultural and technological change. Explores the relations between social values and social institutions, provides a framework for critically and objectively thinking about moral values, and considers various standards proposed for resolving moral dilemmas.

303Q. Nineteenth Century Philosophy. (3). General education further studies course. A study of a selected 19th century philosophers or systems of thought such as Fichte, Schelling, Hegel, Schopenhauer, Marx, Mill, Bradley, Kierkegaard, Peirce, Nietzsche, Comte, Dilthey, Schleiermacher, idealism materialism, positivism, empiricism and pragmatism.

308. Philosophy of Economics. (3). General education further studies course. Investigates various philosophical issues inherent in economic theory and decision making. Philosophical problems discussed include concepts of rationality, decision theory, economic freedom, economic justice, morality and markets and the methodology and presuppositions of economic inquiry.

311Q. Philosophy of Law. (3). General education further studies course. 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.

315. Late Modern Philosophy. (3). General education further studies course. 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). General education further studies course. A study of philosophical thought in the 17th century with selections from such philosophers as Spinoza, Leibniz, Malebranche and Locke.

323. Early Modern Philosophy. (3). General education further studies course. A study of philosophical thought in the period from the Renaissance through the 17th century with selections from such philosophers as Pico, Descartes, 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). General education further studies course. 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). General education further studies course. 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). General education further studies course. Cross-listed as Wom. S. 338. An exploration of philosophical issues raised by the feminist movement emphasizing conceptual and ethical questions.

346Q. Philosophy of Religion. (3). General education further studies course. Cross-listed as Rel. 346. An 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.


354. Ethics and Computers. (3). General education further studies course. Ethics with applications 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 obligations of a computer professional to 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). General education further studies course. 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 intuitions and the concept of justice and the problem of revolution in moral schemes. Prerequisite: one course in philosophy.

375. Philosophy of the Arts. (3). General education further studies course. 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). General education further studies course. Cross-listed as Hnrs. 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. Empiricism. (3). A study of the philosophical views that emphasize sensory experience rather than reasoning as a source of knowledge with particular attention to the philosophies of Hobbes, Locke, Berkeley, Hume and Mill.

540. Theory of Knowledge. (3). A critical examination of the nature of knowledge and of the philosophical problems concerning skepticism; knowledge of the self; material objects; other minds; the past, present and future; universals; and necessary truths. Includes selections from both historical and recent writings. Prerequisite: one course in philosophy.

546. Rationalism. 3. A study of the philosophical views that emphasize reasoning rather than sensory experience as the source of knowledge with particular attention paid to the philosophies of Descartes, Spinoza, and Leibniz.

549. Topics in Ancient Philosophy. (3). Explores one decisive issue in philosophy from the time of Thales through the Stoics. The examination of an issue may confine itself to one period within the total span of ancient philosophy or it may trace the issue throughout the span, indicating its contemporary treatment. Some of the issues treated are: the nature of what is, the concept of the sacred, the meaning of truth, the relation of invariance and process, the existence of universal standards of thought and conduct, the problem of knowledge, skepticism, the nature of language and the character of philosophical inquiry.

550. 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.

553. 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 role 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 areas 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.

588. 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: 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 Gödel’s theorem and of other results in the domain of computability in this context. Prerequisites: at least one 300-level course in computer science or philosophy, Math. 243 and five hours toward the major in any one of the physical or biological sciences with grades of C or better or departmental consent.

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

Physics is the fundamental science—it is the study of matter and energy and their interactions. Physics is the basis for all science and for all applied science and engineering. Physicists study everything from elementary particles to galaxies, from semiconductors to chaos.

Because physics is the basic underpinning for all of science and technology, physics majors have many career alternatives. Many continue their education at graduate and professional schools—in physics or in chemistry, biology, geology, engineering, medicine, law, or business. Those who enter the job market directly have an emphasis on problems and the detailed applications. Many continue their education at graduate and professional schools—in physics or in chemistry, biology, geology, engineering, medicine, law, or business. Those who enter the job market directly have an emphasis on problems and the detailed applications. Many continue their education at graduate and professional schools—in physics or in chemistry, biology, geology, engineering, medicine, law, or business.

80S. 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.

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 mathematics, geology, computer science, biological sciences, business, 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

111Q, Introductory Physics. (4). 3R, 3L General education introductory course. 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.

131Q. Physics for the Health Sciences. (3). General education introductory course. A background in basic physics for students in health related professions. The choice of topics, the emphasis on problems and the detailed applications are directed toward the special uses of physics in the health sciences. Prerequisites: two years of high school algebra or one year each of algebra and geometry or equivalent.

151Q. Preparatory Physics. (2). A general physics course for those who have not had adequate preparation for Phys. 313Q. Emphasizes problem solving using selected areas of physics, including vectors, one-dimensional motion, rotational motion, equilibrium, elasticity, hydraulics, thermal effects, lenses, and mirrors. Prerequisites: Math. 112.
195G. Introduction to Modern Astronomy. (3). General education introductory course. A survey of astronomy for the student with little or no background in science or math. The nature and evolution of the universe and objects in it are considered from the perspective of the question: Why do things happen the way they do? May include comparison of the planets, stars and black holes, galaxies and quasars and the expansion of the universe.

196. Laboratory in Modern Astronomy. (1). 3L. The application of the techniques and analysis of the data of modern astronomy. For the student with some background in the physical sciences. When 196 is completed, 195G and 196 count as a laboratory science. Requires field trips. Prerequisites: two semesters of high school algebra or the equivalent, or instructor's consent, and Phys. 195G, which may be taken concurrently.

198. Discovery in Astronomy. (3). Discusses a selected topic in astronomy to develop an understanding of the discoveries and problems of modern astronomy. Primarily for general students with little or no background in a science or math. See course schedule for topic each semester.

213Q. General College Physics I. (5). 4R; 3L. General education introductory course. Mechanics. Heat and wave motion. For students with a working knowledge of algebra and trigonometry but who have had no calculus. Prerequisite: high school trigonometry or Math. 112.

214Q. General College Physics II. (5). 4R; 3L. General education further studies course. A continuation of Phys. 213Q. Electricity, light and modern physics. Prerequisite: Phys. 213Q or 313Q.

223. The Mechanical Universe. (4). A study of the development of mechanics with calculus. The mechanics is applied to planetary motion, harmonic motion and waves as embodied in the specially prepared TV course "The Mechanical Universe." Not a lab course but lab credit can be obtained by departmental arrangement. Prerequisite: high school trigonometry or Math. 112.

Upper-Division Courses

313Q, University Physics I. (4). General education introductory course. The first semester of a calculus-based physics sequence. Studies mechanics, heat, and wave motion. High school physics or Phys. 151 is assumed as prerequisite for this course. Natural science majors are required to take the lab Phys. 313Q that accompanies this course. Credit is not given for both Phys. 213Q and 313Q. Corequisites: Math. 243.

314Q, University Physics II. (4). General education further studies course. 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. Prerequisites: Math. 243 with a grade of C or better and Phys. 213Q with a grade of B or better or Phys. 313Q.


320. Scientific Thinking. (3). General education issues and perspectives course. How science, particularly physics, is done. How do we know what we know? What do we mean when we say, as scientists, that we understand a phenomenon? How do we approach a problem? Emphasizes the nature of science rather than particular theories. Gives an appreciation of science as a human intellectual activity and of the picture that modern physics gives us of the universe.

395G. Solar System Astronomy. (3). General education further studies course. 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 C/NC 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 8 credit hours. Corequisite: Phys. 551.

517. Electronics Laboratory. (2). 1R; 3L. Experiments in electronics that treat some of the applications of electronics in scientific research. Experiments cover the use of vacuum tubes, transistors, IC and digital circuits. Prerequisite: Phys. 314Q.

*551. Topics in Modern Physics. (3). Additional topics may include radiation, scattering, optical properties of solids, and other fields. Prerequisites: Phys. 214Q or 314Q and Math. 344.

600. Individual Readings in Physics. (1-3). Repeatable but total credit may not exceed 6 hours for physics majors. Prerequisite: departmental consent.

601. 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 6 hours. Prerequisite: instructor's consent.

616. Computational Physics Laboratory. (3). Provides a working knowledge of some of the computational techniques with applications in both theoretical and experimental physics, including a brief introduction to the FORTRAN language. Prerequisites: Phys. 551 and Math. 555.

621. Elementary Mechanics. (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.

631. Electricity and Magnetism. (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.

641. Thermodynamics. (3). The laws of thermodynamics, distribution functions, Boltzmann equation, transport phenomena, fluctuations, and an introduction to statistical mechanics. Prerequisites: Phys. 214Q or 314Q and Math. 344.

651. Quantum Mechanics. (3). An introduction to quantum mechanics, the Schrodinger equation, elementary perturbation theory, and the hydrogen atom. Prerequisite: Phys. 551.

681. Solid State Physics. (3). A one-semester introduction to solid state physics, which explores and explains—in the terms of the microscopic processes that produce them—the thermal, mechanical, and electronic properties of solids. Discusses practical applications and interdisciplinary material. Prerequisite: Phys. 551.

741. Theoretical Physics. (3). A study of mathematical techniques applicable to physics and other sciences. Instructor selects topics, such as power series, infinite products, asymptotic expansions, WKBJ method, contour integration and residue methods, Integral transforms, Hilbert spaces, special functions, and integral equations. Prerequisite: Math. 555 or instructor's consent.

*Course may not be counted for credit toward a graduate physics major.

Courses for Graduate Students Only

800. Individual Readings. (1-3). Repeatable for credit up to 3 hours. Prerequisites: 30 hours of physics and departmental consent.
801. Selected Topics in Physics. (2-3). Repeatable for credit up to 6 hours. Prerequisite: departmental consent.

807. Seminar. (1). Review of current periodicals; reports on student and faculty research. Repeatable for credit up to 2 hours. Prerequisite: 20 hours of physics.

809. Research. (1-3). Repeatable for credit up to 6 hours.

811. Quantum Mechanics. (3). The Schrödinger and Heisenberg formulations of quantum mechanics. Applications include rectangular potentials, central forces, and the harmonic oscillator. Also includes spin, time independent, and time dependent perturbation theory. Prerequisites: Phys. 621 and 651 or departmental consent and Math. 555.


831. Classical Electricity and Magnetism. (3). Maxwell's equations with application to static electricity and magnetism. Also may include electromagnetic fields, vector potentials, Greens functions, relativity, optics, and magnetohydrodynamics. Prerequisites: Phys. 631 and Math. 555.

871. Statistical Mechanics. (3). An introduction to the basic concepts and methods of statistical mechanics with applications to simple physical systems. Prerequisites: Math. 555 and Phys. 621.

881. Solid State Physics. (3). A second course in solid state physics for students who have had an introduction to the subject. Transport, dielectric and optical properties, magnetic properties, superconductivity, and applications to semi-conductor devices. Prerequisites: Math. 555, Phys. 651 and 681, or departmental consent.

Political Science

Politics—a means of managing conflict and distributing the materials of society to 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 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 30 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.

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.

1. Political Theory and Philosophy—Pol. S. 315, 316Q, 317, 318, 319, 358Q, 551, or 552Q
2. Comparative Politics—Pol. S. 226Q, 320, 352Q, 524, or 525
3. International Relations—Pol. S. 335Q, 336, 338, or 534
4. 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 Emphasis in Political Science. The goal of this emphasis is to provide students an educational foundation for jobs at basic levels of public service and for graduate study in public administration. Students should note that an undergraduate degree is usually not considered sufficient educational preparation for a professional career in this field.

Political Science (33 hours)—Pol. S. 121Q, 232Q, 319, 321, and 580; students must also elect two of the following courses—Pol. S. 315, 316, 317, and 551; either one course from Pol. S. 226Q, 320, 530, 523Q, and 542; elect one course from Pol. S. 335Q, 336, 337, 533, and 534; earn a minimum of 3 hours of internship, Pol. S. 490; and complete the 33-hour requirement with political science electives.

Other social sciences (12 hours)—Econ. 201 and 355Q; one course from among Anthr. 102Q and Min. S. 100Q or 210Q; either Psy. 111Q or Soc. 111Q.

Other requirements (15-16 hours)—one of the following courses—Econ. 231, Soc. 501, Stat. 370, or EMPA 301; one of the following courses—Soc. 332 or SUPA 301; both Acct. 210 and 220; and one of the following courses—CS 105, DS 495, or P. Adm. 625.

Electives (12 hours)—Engl. 210; Hist. 131Q and 132Q; Phil. 144Q; Soc. 334; Acct. 260; Fin. 340 and 612; HIRM 466, 664, and 666; Mgmt. 360, 362, 430, and 462; Pol. S. 560; SUPA 501.

Lower-Division Courses

101C. Politics: Who Gets What. (3). General education introductory course. 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 policies developed to solve economic, ethnic politics and the politics of oil.

103G. Games Nations Play: Problems in International Relations. (3). 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 long-lasting aims rather than to transmit facts. The dual aims thus become the development of a sensitivity on the part of students to international problems that will be a part of their lives and to create a framework in which the students can analyze the international problems they encounter in the future.

110. Russian Studies. (3). Cross-listed as Russ. 110 and Hist. 110. Team-taught by faculty from history, political science, and modern and classical languages and literature. Prepares students wishing to pursue additional courses and/or programs in Russian history, Russian language and literature, Russian government and politics, and/or international relations, including business. Covers medieval, czarist, Soviet, and present day (post-Soviet) Russia.

121Q. American Politics. (3). General education introductory course. 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). General education introductory course. An analysis of the basic patterns and structures of Western democratic and political systems, transitional systems and dictatorial or totalitarian systems.

>232Q. Basic Ideas in Political Theory. (3). General education issues and perspectives course. 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). General education further studies course. Focuses upon the evolution of the presidential office, the recruitment of presidents and the nature of presidential power.

>316Q. The Congress. (3). General education further studies course. Focuses on the Congress with particular attention to interest articulation at both state and national levels.

>317. Urban Politics. (3). General education further studies course. 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). General education further studies course. The role of political parties in the American political decision-making process at the national, state and local levels.

>319. State Government. (3). General education further studies course. Examines the role of the states in the federal system and compares state politics and their political institutions.

>320. Politics of Developing Areas. (3). General education further studies course. 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; administrative regulations and adjudication; organization and management; budgeting and financial 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 current interest concerning women. Explores the association of societal gender role expectations and proposed public policies that pertain to women’s lives. Prerequisite: 6 hours of social science or instructor’s consent.

330. Post-Communist Europe. (3). A systematic study of contemporary political developments in the former Soviet Union and East Europe. Examines major policy-making institutions and processes and considers the fundamental principles on which the political system is based. Includes selection of leaders and their roles in policy-making, legislative bodies, organization and representation of interest groups, political parties and elections; political aspects of the educational system, the media, religious institutions, and ethnicity.

>335Q & >336. International Politics and Institutions. (3 & 3). General education further studies courses. 335Q: Focuses on interaction between actors in the international system. Covers nature of conflict and conflict resolution. Either 335Q or 336, but not both, may be accepted toward a major in history. 336: Focuses on role of international organizations in the international system. Emphasizes the United Nations. Also covers some regional organizations.

>337. International Force and Intervention. (3). General education further studies course. Examines the use of force and intervention in the international system. Covers the use of diplomatic and military surprise and crisis and the nature of war. Also discusses problems involved 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 from Russia to Soviet foreign relations and policy aims; and execution of foreign policy in selected areas.

>345. Classical Medieval Political Theory. (3). General education further studies course. 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. Traces 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). General education further studies course. Considers selected topics in the development of political ideas in the United States.

>390. Special Topics in Political Science. (1-3). General education further studies course. 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.

399. Travel Seminar. (1-6). An interdisciplinary travel seminar that allows students to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Students observe the political systems of the places they visit, analyze their dynamics, and demonstrate their understanding of those systems through a project which has the approval of the department’s advisor.

>444. Modern Political Theory. (3). General education further studies course. 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 supplement the student’s more formal political science curriculum. Student programs must be approved by the department. Offered Cr/NC only.

490. Internship in Government/Politics. (3-6). (Washington, 6; Topeka, 3). Credit for an approved work experience in a public, quasi-public or governmental agency, including an academic component. Washington interns participate in the program co-sponsored with the University of Kansas for which an on-site coordinator is provided. Kansas legislative interns spend two days per week in Topeka while the legislature is in session. Both internships offered each spring semester. Prerequisites: sophomore or upper-class standing; Pol S. 121Q or equivalent and instructor’s consent.

Courses for Graduate/Undergraduate Credit

505. The Politics of Health. (3). 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). General education further studies course. An examination of the political institutions and processes that currently exist in the Latin American republics. Emphasizes the social, economic and psychological factors affecting these institutions and processes.

>524. Politics of Modern China. (3). General education further studies course. 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 distortions of cultural bias. Encompasses the roots of the political system, the system as it is now and the goals China is striving to realize. Some assessment about the future development of communism in China. Includes Chinese communism and the ideological heritage; political culture; political leadership; leadership succession; political participation; the Chinese Communist Party; political communications and socialization; legal developments; policy choices; and major events, such as the Hundred Flowers Campaign, Great Leap Forward and the Proletarian Cultural Revolution.


534. Problems in Foreign Policy. (3). General education further studies course. Examines domestic and international problems associated with U.S. foreign policy.

547. Contemporary Political Theory. (3). General education further studies course. Introduces the radically new ideas that emerged in the last century as a result of Darwin's theory of evolution 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. Special emphasis on the laws governing public personnel management and on the unique merit, equal employment opportunity, productivity, and social responsibility of governmental organizations. Prerequisite: departmental consent.

570. Public Sector Organizational Theory and Behavior. (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.

725. Public Management of Human Resources. (3). Cross-listed as P. Adm. 725. Surveys the major areas of management of human resources in the public sector. Includes hiring, training, evaluation and pay systems. Special emphasis on the laws governing public personnel management and on the unique merit, equal employment opportunity, productivity, and social responsibility of governmental organizations. Prerequisite: departmental consent.

750. Workshop. (2-4). Prerequisite: instructor's consent.

Courses for Graduate Students Only

810. Seminar in Comparative Government. (3). The comparative study of selected aspects of the politics and institutions of foreign governments. Prerequisite: departmental consent.

835. Seminar in International Relations. (3). Analysis of special problems in and approaches to the study of international relations. Prerequisite: departmental consent.

841. Seminar in Urban Politics. (3). An intensive analysis of urban politics emphasizing individual research projects. Prerequisite: departmental consent.

842. Administration in Local Government. (3). Cross-listed as P. Adm. 842. Examination of administrative processes and problems in local government, including the role of the professional chief executive. Examines problems from the following: labor-management relations, program evaluation, county government reform, governmental decentralization, citizen participation, grant-in-aid programs, interlocal cooperation, affirmative action requirements, and service contracting. Prerequisite: Pol. Sci. 317.

845. Seminar in Political Theory. (3). Detailed study of the relevant works of a major political philosopher and his/her contribution to contemporary thought. Prerequisite: departmental consent.

851. Seminar in Public Law and Judicial Behavior. (3). Analysis of special problems in and approaches to the study of legal systems. Emphasizes developing awareness of research in the field. Prerequisite: departmental consent.

856. Seminar in American Politics and Institutions. (3). Analytical study of selected topics in American political behavior emphasizing individual research. Repeatable for credit when content differs substantially. Prerequisite: departmental consent.

865. State and Local Government Finance. (3). Cross-listed as Econ. 865 and P. Adm. 865. An analysis of state and local government expenditure and revenue systems with an introduction to state and local financial administration. Prerequisites: P. Adm. 765 or instructor's consent.

867. State and Local Government Budgeting. (3). Cross-listed as P. Adm. 867. An analysis of the development and utilization of the budgetary process in government administration emphasizing the budget in relation to its role in policy formulation and management. Prerequisite: P. Adm. 865 or instructor's consent.


873. Seminar Paper Option. (3). Requires students to extensively revise a seminar paper they wrote within their area of emphasis. Paper is written under the direction of a faculty member and orally defended before a committee of three or more faculty, including a chairperson. Prerequisite: departmental approval.

874. Internship. (3-6). S/U grade only. An intensive applied learning experience supervised by a university department or committee. To receive credit, the student must secure approval of a written report from his/her own department. Prerequisite: departmental consent.

875. Research Design. (3). S/U grade only. Requires the development of a research design for the thesis. The design must be submitted to a departmental committee for evaluation and approval. Prerequisite: departmental consent.

876. Thesis. (1-9).

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, 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 advisor.

Kansas Alcoholism and Drug Addiction Counselors’ Association (KADACA) certification. KADACA certification requires 36 semester hours of study in an area of psychology approved by the KADACA administrative committee. The area must include 12 semester hours of study in substance abuse counseling, 12 semester hours of study in human services, and nine semester hours of study in psychology. A practicum is required in the area of study. A practicum is defined as a minimum of 100 hours of supervised work in a substance abuse counseling setting.

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) General education introductory course. An introduction to the general principles and areas of psychology. Includes learning, perceiving, thinking, behavior, development, intelligence, personality, and abnormalities of behavior. Course is a prerequisite for advanced and specialized courses in psychology.


128. Pharmacology for Substance Abuse Counseling. (2). Covers states of intoxication, withdrawal, and side effects associated with alcohol and substance abuse. Includes cross addiction and adverse effects of combining psychoactive drugs with prescribed and over-the-counter medication. Does not satisfy WSU’s social science requirement nor does it count for a psychology major.

138. Ethics and Confidentiality in Substance Abuse Counseling. (1). Covers substance abuse client rights, state and federal regulations concerning client confidentiality, and professional code of ethics and confidentiality requirements of substance abuse counselors. Does not satisfy WSU’s social science requirement nor does it count for a psychology major.

148. Field Experience in Substance Abuse Counseling. (2). Work experience in an agency that provides substance abuse counseling services. Students gain experience in assessment, case and record management, individual and group counseling, and other skills relevant to the work of a substance abuse counselor. Does not satisfy WSU’s social science requirement nor does it count for a psychology major.

150. Workshop in Psychology. (1-4).

158. Medical High Risk Issues in Substance Abuse. (1). Covers sexually transmitted diseases, fetal alcohol syndrome, and other physiological and neurological consequences associated with alcohol and substance abuse. Does not satisfy WSU’s social science requirement nor does it count for a psychology major.

168. Multicultural Issues in Substance Abuse. (2). Covers how cultural, ethnic, racial, and other social population differences affect the use and abuse of addictive substances. Also includes adjusting counseling techniques to make them more culturally sensitive. Does not satisfy WSU’s social science requirement nor does it count for a psychology major.

Upper-Division Courses

302. Psychology of Learning. (3). General education further studies course. 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. Includes important research, theoretical issues and current trends. Prerequisite: Psy. 111Q.

304Q. Social Psychology. (3). General education further studies course. A study of social behavior as influenced by the social for and characteristics of others. Includes attitude formation and change, attraction, 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.

306. Introduction to Individual Counseling. (3). Surveys contemporary theories and techniques of individual counseling. Compares various theoretical approaches and includes practical applications of each theory studied. Introduces professional and ethical issues involved in individual counseling. Emphasizes the therapeutic relationship, effective listening and communication skills, and crisis intervention. Prerequisite: Psy. 111Q.

316. Industrial Psychology. (3). General education further studies course. 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). General education further studies course. 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). General education further studies course. 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.

326. Introduction to Group Counseling. (3). Surveys contemporary theories and techniques of group counseling. Includes a comparison of varying group leader roles and styles and discussion of different types of counseling groups and their functions. Emphasizes therapeutic factors and processes in group counseling. Prerequisite: Psy. 111Q.

332. Psychology of Perception. (3). General education further studies course. An exploration of current research and theory in perception and sensation. Emphasizes how organisms come to perceive and understand their environments with regard to perception of space, form, objects and events. Also gives consideration to motivation and personality factors in perception. Prerequisite: Psy. 111Q.

334Q. Developmental Psychology. (3). General education further studies course. Descriptive survey of human development from conception to death emphasizing the interplay of environmental, genetic and cultural determinants. Developmental topics emphasized and elaborated by demonstrations and case studies. Prerequisite: Psy. 111Q.

336. Alcohol Use and Abuse. (3). General education further studies course. 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.

>42Q. Psychology of Motivation. (3). General education further studies course. Examines the psychological and biological forces leading to goal-directed acts to understand the complexity of individual 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 comparability of data to scientific hypotheses. Covers probability models, i, chi square and F. Prerequisites: Psy. 111 Q and Math. 111 or 112.

>402. Psychology of Consciousness. (3). General education further studies course. 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). General education further studies course. Cross-listed as Ger. 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 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). General education further studies course. 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). SR; 31. Covers the philosophy of research methods, explication of theories, research designs, appropriate data analysis techniques, and historical trends and developments in experimental psychology. The laboratory exposes students to representa-tive experimental lab techniques in the major subdivisions of psychology. Actively involves all students in research projects(s). Prerequisite: Psy. 401.

>414. Child Psychology. (3). General education further studies course. 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). General education issues and perspectives course. 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/sexism, child abuse, juvenile delinquency, aggression, behavioral control, aging, technology, etc. Prerequisite: 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 study, observation, service and/or research may be undertaken with prior approval by the department. Repeatable for a maximum of six credit hours, but only three hours may be earned per semester. Offered Cr/NCr only. 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). Develops a unified theoretical perspective about the origins of behavior of all animals. Focuses on the evolution and development 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 6 hours' credit. Instructor's consent may be required. Check Schedule of Courses. Prerequisite: Psy. 111Q.

>512. Primatology. (3). General education further studies course. A survey of the primates (including humans) and their behavior. Includes principles of evolution and taxonomy, the evolution of the primates to Homo sapiens, the emergence of language, cognitive functioning, and culture. 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 of illness. Prerequisite: Psy. 111Q.

>516. Drugs and Human Behavior. (3). General education further studies course. A survey of the actions and effects of use of legal and illegal psychoactive drugs, and of the use of prescription drugs in the treatment of psychological disorders. Details social-cultural, personal and situational determinants and consequences of drug use and abuse. Prerequisite: Psy. 111Q.

>522. Biological Psychology. (3). General education further studies course. 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 biochemical 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.

526. Psychological Testing and Measurement. (3). A critical analysis of the psychological 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). General education further studies course. Cross-listed as Ling. 545. Survey of psychological, linguistic and informational analyses of language. Includes the emergence of language, innateness, child development of speech, animal communication systems and the relation of language to thought. Prerequisite: Psy. 111Q.

>534. Psychology of Women. (3). General education issues and perspectives course. Cross-listed as Wom. S. 534. Psychological assumptions, research and theories of the roles, behaviors, 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. Prerequisite: 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 pre-
vention of abnormality. Prerequisite: Psy 324Q.

546. Practicum in Applied Behavior Analysis and Social Learning. (3). 1R; 4L. 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 3 times. Prerequisite: Psy 536 and instructor's consent.

556. Introduction to Clinical Psychology. (3). A survey of current ethical, conceptual, and research issues involved in the assessment and treatment of psychopathology. Reviews contemporary psychotherapies emphasizing the relative efficacy of each and the therapeutic mechanisms through which they initiate behavioral change. Prerequisite: Psy 324Q.

568. Computer Applications to the Behavioral Sciences. (2). 2R; 2L. Introduces computer applications to the behavioral sciences including 1) techniques of analyzing experimental data, 2) statistical applications, 3) interactive computing, 4) "canned" statistical programs, 5) word processing, and 6) other current computer applications. Prerequisites: 9 hours in the social sciences.

601. Systems and Theories in Psychology. (3). Includes behaviorism, Gestalt psychology, structuralism, and others. Attempts to develop the logical relations of these theories to each other as well as to common historical themes and current issues. Prerequisite: 15 hours of psychology including Psy 411.

608. Special Investigation. (1-3). Upon consultation with instructor, advanced students with adequate preparation may undertake original research or directed readings in psychological problems. Repeatable for a maximum of 6 credit hours. Requires consultation with and approval by the advisor prior to registration. Prerequisites: 9 hours in psychology and instructor's consent.

622. History of Psychology. (3). Traces the development of philosophical and empirical concepts of psychology from the ancient Greeks through the 19th century. Examines the origins and various views of the body-mind relationship. Emphasizes the influences of naturalistic assumptions and research methods on 20th century psychology. Prerequisites: 9 hours of psychology or 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 psychophysical aspects of flight, environmental effects on human performance in aviation, aircrew skill requirements and training, pilot workload, cockpit control and display systems and aviation safety. Prerequisites: 15 hours of psychology or instructor's consent.

750. Psychology Workshop. (1-3). Specialized instruction, using various formats in selected topics and areas of psychology. Graded S/U.

Courses for Graduate Students Only

810. Advanced Research Methods I. (4). 3R; 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 versus 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 BIOMED statistical routines. Prerequisite: instructor's consent.

811. Advanced Research Methods II. (4). 3R; 3L. Continuation of Psy. 810. Statistical techniques 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 and Philosophical Foundations of Psychology. (3). Develops the idea that psychology is a biosocial science. Accordingly, course examines the philosophical foundations of science itself before exploring the biological foundations and contextual nature of psychology science. Readings cover biological factors as they pertain to psychology: evolution, genetics, maturation, functional neuroanatomy, physiology. Includes critical reviews of genetic determinism, neural localization, and hemispheric specialization. Prerequisite: instructor's consent.

813. Cognitive/Learning Foundations of Behavior. (3). Focuses on how human beings learn, maintain, and modify behavior, and how cognitive knowledge is acquired, maintained, represented, and used. Serves as an integrated resource of the main issues and theoretical questions investigated in the psychology of learning and cognition. Provides a basic understanding of classical and instrumental conditioning, and the cognitive processes of memory, language, speech, thought, decision making and problem solving. 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 in areas of social relationships for development and the embeddedness of behavior in social, ecological, and cultural contexts, focusing on a number of substantive issues such as person perception and social cognition, affiliation and attachment, socialization and interpersonal interaction, social support and social roles in 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 doctoral courses; for doctoral students from other disciplines, instructor's consent after an interview.

830. Seminar in Community-Clinical Psychology. (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.

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. Could include behavior-environment congruence, 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 motivation 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. Prerequisites: advisor's consent and graduate standing.
Regarding program development, there is an opportunity to apply the principles of human factors psychology. Prerequisite: advisor's consent.

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 513; and instructor's consent after interview for doctoral students from other disciplines.

Seminar in Software Psychology (3). Intensive study of principles and methods of engineering psychology (human factors) as applied to the design and evaluation of computer software. Topics include research methods, programming as human performance, programming style, software quality evaluation, organizing the programming team, interactive interface issues, and the design of interactive computer systems. Prerequisite: instructor's consent.

Advanced Psychopathology (3). An overview of major categories of psychopathology consistent with the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders. Reviews descriptive features of each diagnostic category and information on the clinical course and etiology. Examines differing definitions of psychopathology and paradigmatic approaches to the study of psychopathology. Prerequisite: instructor's consent.

Applied Research Methods in Community Settings (3). An examination of research methods which are used in community settings to develop and evaluate programs. Regarding program development, there is discussion of different data collection strategies used to address community needs. Explores a variety of topics related to program evaluation including research design issues, developing criteria of merit, and the politicization of program evaluation. Prerequisite: instructor's consent.

Internship in Human Factors Psychology (1-3). Repeatable up to 6 hours. A planned placement experience in an off-campus setting, giving the doctoral human factors psychology student an opportunity to further develop and apply skills in community-clinical psychology. Repeatable for a maximum of 9 credit hours. Prerequisite: advisor's consent.

Practicum in Clinical Psychology (1-3). Provides supervised practice working in community-based organizations on such tasks as needs assessment, program development, and program evaluation. Organizational settings may be in the areas of mental health, health, and education. Services may be prevention-oriented. Repeatable for credit. Graded S/U only. Prerequisite: instructor's consent.

Seminar in Cognitive-Behavioral Assessment (4). Surveys issues of reliability and validity; provides description, critical analysis and practice in clinical use of such psychological assessment methods as interviewing, observation, self-report and standardized intelligence and personality tests. Focuses upon comprehensive clinical assessment, including integration and reporting of assessment data for treatment planning. Prerequisite: instructor's consent.

Seminar in Cognitive-Behavioral Therapy (4). 3R; 3L. Reviews the theoretical and empirical support for specific behavior therapeutic practices. Approaches may include systematic desensitization, flooding, contingency management, and behavior therapy. Also discusses the interface between behavioral assessment and clinical practice. Prerequisite: instructor's consent.

Seminar in Community and Organizational Intervention (4). 3R; 3L. Focuses on the development and/or change of community-based programs and organizations and the implementation and funding of community-based programs. Explores theoretical and conceptual basis of these interventions, drawing on material from community psychology, clinical psychology, public health, health psychology, and applied social psychology. Helps prepare students to become involved as professionals in community-based health or mental health interventions in a variety of roles as program developers, proposal writers, program implementers, and program managers. Prerequisite: instructor's consent.

Seminar in Prevention (3). Reviews the historical, theoretical, and empirical bases of prevention psychology. Presents contemporary models of prevention psychology including the ecological, social, and community mental health perspectives. Could include primary prevention, empowerment, community-based prevention, self-help, social policy, and the prevention of psychosocial problems through environmental intervention. Prerequisite: instructor's consent.

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 on contemporary research and literature regarding the interface of sensory-motor processes. Prerequisite: instructor's consent.

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 Urban and Public Affairs, Hugo Wall School of.

Religion
The study 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.

There is no major in religion but an emphasis in religion is available through the general studies program and a minor in religion is also 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). 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 then proceeds to study how the Jewish and Christian traditions have interpreted those ideas and molded them in various forms and combinations. Course is historical and analytic not polemical; 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 religious context—the polytheistic world of the ancient Near Eastern and Mediterranean civilizations of Babylon, 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). 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). General education introductory course. 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.

220. 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-1 222Q, Hist. 222, Pol. S. 222Q. General education introductory course. A survey of basic topics in 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 sophisticated 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). 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 minor 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). 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 ultimacy 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, ethereal bodies in Hinduism and the Tibetan Bardas. Lecture, discussion and student reports. Visits with 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.


323. 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 various peoples around the world. Relates such religious beliefs and the resultant practices to the larger patterns of cultural beliefs and behaviors.

333Q. Women and Religion. (3). Cross-listed as Wom. S. 333. 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.
Sociology

Sociology—the scientific study of society and human interaction—is an opportunity to learn a great deal about yourself and the society around you. 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.

Major. The study of society mandates specific skills for interpreting information and observations. Therefore, students majoring in sociology are required to enroll in the following courses:

Course Hrs.
Soc. 111Q, Introduction to Sociology ........ 3
Soc. 312, Introduction to Social Research 3
Soc. 501, Sociological Statistics ............. 3
Soc. 512, Measurement and Analysis ....... 3
Soc. 545, Sociological Theory ............... 3

In addition to the five courses listed above, majors also must enroll in 15 hours of electives to complete the 30-hour major. With this flexibility, students can select specific areas of concentration such as deviant behavior, family, gender, gerontology, social organization, intimate relations, and urban sociology—or some combination of these specialties. Depending on your interests and goals, certain courses in related departments that meet your particular needs and are approved by your advisors may be counted toward a 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:

Course Hrs.
Soc. 111Q, Introduction to Sociology ....... 3
At least 6 hours of courses, 500+ .......... 6

Lower-Division Courses

100G. Sociology and Everyday Life. (3). Relates current sociological thought to everyday life experiences. The underlying assumption is that the discipline of sociology can effectively broaden the perspective of individuals and assist them in understanding the organization of social events facing them every day. 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). General education introductory course. Introduces 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). General education further studies course. 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. Course focuses upon the work setting and the family. Includes new social roles (programmer, hacker, the cyberphobic the cyberphilic); 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). Generally offered fall semester only. 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. Marriage and Families. (3). General education further studies course. Emphasizes dating and marriage processes as they exist in the United States today. Examines the different family forms that exist in the U.S. and around the world, and considers historical change. Aids students in the acquisition of a sociological perspective of the marriage process through an examination of social class, ethnicity, sex roles, dating cohabitation, and human sexuality. Emphasizes marital interaction, parenthood, family violence, marital dissolution and the future of marriage.

316. The American Male. (3). General education issues and perspectives course. 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.


320Q. Contemporary Social Problems. (3). General education further studies course. Examines the theoretical frameworks and research methods used to examine contemporary social problems and applies these frameworks and methods to issues of concern within contemporary society. Includes deviance, social inequality, and discrimination.

322. Deviant Behavior. (3). General education further studies course. The structure, dynamics and etiology of those behavior systems that are
integrated around systematic violations of the control norms. Presents and evaluates competing theories within the context of the assumption that humans are a social product. Prerequisite: Soc. 111Q.

>352. Parenting. (3). General education further studies course. Examines the role of parenting in American society from a number of different perspectives. Focuses on the major developmental changes facing couples as they move through the family life cycle. Covers the decision to have children, remaining childless, the transition into parenthood, parent-infant relationships, parents and school-age children and the transition from active parenthood. Also includes single parents, divorce, step-parenting and dual-career parents. Discusses several different parenting techniques and styles as well.

>330Q. Social Inequality. (3). General education further studies course. An analysis of status, class and caste in various societies, especially in American society. Also includes the relationship of social inequality to various social institutions. Prerequisite: Soc. 111Q.

>334. Sociology of the Community. (3). General education further studies course. An exploration of a basic unit of social organization, the community. Emphasizes organizational and interpersonal relationships within the community and changes in those relationships, as well as the community's place within society. Prerequisite: Soc. 111Q.

>336. Work in Modern Society. (3). General education issues and perspectives course. Broad overview of work in the modern economy. Examines the historical development of industrial-based capitalism, both the organizational-level changes and relations between management and labor. Also examines from a sociological perspective industrial and occupational-level data focusing on changes in work environments, occupational and industrial opportunities, demographics of work occupants, and changes in compensation and work status.

>338Q. Health and Lifestyle. (3). General education further studies course. Views health as a social characteristic which is defined and influenced by social processes. Studies the social resources for health which exist in social norms, relationships and networks. Identifies variations in personal health practices according to characteristics such as social class and marital status. Considers changing social standards for health and the stigma given to poor health. Examines socially created risks to health and organized efforts to change unhealthy environments. Investigates the demedicalization of society. Prerequisite: Soc. 111Q or departmental consent.

>350. Social Interaction. (3). General education further studies course. 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.

>398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, industry, and economics while visiting historic places of interest. Prerequisite: departmental consent.

481. Cooperative Education in Sociology. (1-3). Provides the student with practical experience under academic supervision, that complements the student's academic program. Consultation with and approval by an appropriate faculty sponsor are necessary. Cr/Nc 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. 312, Math. 111 or 331Q or equivalent.

>512. Measurement and Analysis. (3). Generally offered in the spring only. An applied study of the conceptual tools and methodological skills needed to conduct quantitative sociological research. Prerequisites: Soc. 111Q, Soc. 311Q, Soc. 312, Math. 111 or 331Q or equivalent.

>513. Sociology of Aging. (3). General education further studies course. Cross-listed as Geron. 513. Analyzes 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). General education further studies course. Analyzes 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 aspects of American society. Prerequisite: Soc. 111Q.

>516. Sociology of Sex Roles. (3). General education further studies course. Cross-listed as Wom. 516. Analyzes the institutional sources of man's and woman's roles, the source of changes in these roles, the consequence ambiguities and conflicts. Prerequisite: Soc. 111Q.

>517. Intimate Relations. (3). General education further studies course. 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. Analyzes the families and family systems of older people. Emphasizes demographic and historical changes, care giving, and intergenerational exchanges and relationships. Prerequisite: Geron. 100 or jr. standing.

>523. Sociology of Law. (3). General education further studies course. Considers 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). General education further studies course. Analyzes 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). General education further studies course. Studies the process of urbanization and its influence on the development of cultural and social structures throughout the world. Also discusses social problems associated with urbanization. Prerequisite: Soc. 111Q.

>537. The Social Consequences of Disability. (3). General education further studies course. Cross-listed as Geron. 537. An eclectic survey of the social aspects of disability showing the impact of social values, institutions, and policies upon people with disabilities. Appropriate for both students of sociology and the service professions. Prerequisite: Soc. 111Q.

>538. Medical Sociology. (3). General education further studies course. Analyzes 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). General education further studies course. The factors related to juvenile delinquency and the measures of treatment and prevention. Prerequisite: Soc. 111Q.

>540. Criminology. (3). General education further studies course. The extent and nature of crime, criminal deviance 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.

>545. Sociological Theory. (3). Generally offered fall semester only. A comprehensive survey of sociological theory, spanning both classical and contemporary theorists 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. Prerequisites: departmental consent.

>600. Selected Topics in Sociology. (3). Study in a specialized area of sociology emphasizing student research or objects. Includes exit behavior, political sociology, the family and others. Repeatable for a maximum of 6 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 are necessary. Graded CR/NC only.

812. Advanced Research Methods. (3). Through classical and contemporary readings, course examines issues and concerns of countries in the process of urbanization. Prerequisite: Soc. 534 or departmental consent.

845. Seminar in Sociological Theory. (3). Usually offered in the spring only. Examines classical and contemporary sociological theories and focuses on including the application of such theories in students' thesis and nonthesis projects. Prerequisite: Soc. 545 or departmental consent.

847. Seminar in Recent Developments in Sociology. (3). Major issues, new theories, new techniques of research, new areas of research, and new applications. Repeatable for credit but not to exceed 6 hours. Prerequisites: 15 hours of sociology and departmental consent.

851. Directed Research. (1-3). For the advanced student who wants to achieve research competence in a specific area. Each student is directed by a member of the graduate faculty in the development of a project in research not leading to thesis research. Prerequisites: Soc. 512 and instructor's consent.

860. Proseminar—Teaching Sociology. (1). Usually offered in the fall only. Examines the academic roles of sociologists. Prerequisite: departmental consent.

870. Independent Reading. (2-3). Advanced systematic reading in a topical area under the tutelage of a member of the graduate faculty. Repeatable for credit. Not to exceed 6 hours. Prerequisite: departmental consent.

875-876. Thesis. (3-6). Mentored procedure for their degree program and students are informed of this procedure in the year prior to degree completion.

The Hugo Wall School of Urban and Public Affairs offers the following SUPA courses used in the undergraduate and graduate curricula by all the academic programs within the school.

Upper-Division Courses

401. Computer and Statistical Applications in Urban and Public Affairs. (3). Introduces computer and statistical applications used in public agencies. Emphasizes availability and use of data sources, quantitative decision-making techniques, and interpretation of statistical analyses. Prerequisite: Math. 111 or equivalent.

407. Introduction to Research in Urban and Public Affairs. (3). Introduces research methods emphasizing the methods most commonly used in urban and public affairs. Includes library and reference materials, government documents, and legal materials. Prerequisite: an introductory course in one of the disciplines within the Hugo Wall School.

Courses for Graduate/Undergraduate Credit

501. Integrity in Public Service. (3). Exposes the student to basic principles of personal and professional integrity and how those principles apply to their daily life as a member of the community and as an employee of a government or social service agency. Employs a case study method, using cases and examples from a wide range of government and non-profit agency experiences. Students become aware of the moral and ethical issues which may arise in their professional and personal lives; begin to develop critical thinking and analytical skills regarding ethical behavior; and become more personally and professionally responsible. Prerequisite: junior or senior level or instructor's permission.


597. Applied Research Methods in Urban and Public Affairs. (3). Studies research methods including questionnaire construction, surveys, methods, experimental design, and report preparation. Emphasizes completion of an applied research project. Prerequisites: an introductory class and one more advanced classes in one of the disciplines within the Hugo Wall School, and SUPA 401 or 407.

621. Environmental Law. (3). An in-depth analysis of emerging federal, state, and local legislation; judicial decisions, and administrative policy in environmental protection. Explores the roles of a variety of governmental agencies and non-governmental organizations as related to prevention and enforcement processes of environmental protection. Includes issues in the development and implementation of environmental policy. Prerequisite: an approved methods class.

625. Computer Applications for Public Policy. (3). Familiarizes students with major types of
software applications for IBM compatible microcomputers and their use in public policy analysis.

651. Dispute Resolution. (3). Topics include dispute causation, typologies, communications, mediation, arbitration, and other dispute resolution techniques. Includes criminal and victim mediation, both inter-group and interorganization relations and dispute resolution techniques, and analysis of case studies.

702. Research Methods in Urban and Public Affairs. (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: instructor’s consent.

750. Workshop in Urban and Public Affairs. (1-3). Specialized instruction using variable format in urban and public affairs relevant subject. Repeatable for credit. Restricted to Graduate students only.

797. Public Policy Analysis and Program Evaluation. (3). An overview of approaches to public policy analysis and program evaluation. Examines the roles of participants in public policy development, implementation, and evaluation. Explores policy and program functions and their intended and unintended impacts. Focuses on methodologies for collection of data and their use in the assessment of programs and program impacts. Prerequisites: an approved statistics class and an approved methods class.

Courses for Graduate Students Only

802. Quantitative Methods for Public Sector Professionals. (3). Uses standard microcomputer statistical software and analysis to introduce statistics and quantitative analysis for organizational and policy decision making. Emphasizes the application of statistics and writing with quantitative evidence to real public sector policy questions. Assumes little or no background in statistics and software applications. Prerequisite: SUPA 702 or instructor’s consent.

897. Advanced Research Methods in Urban and Public Affairs. (3). Advanced research course; studies the selection and formulation of research problems, research design, hypotheses generation, scale construction, sampling procedures and data analysis and interpretation. Prerequisite: SUPA 597 or equivalent.

898. Applied Research Paper. (3). Original research project under a faculty member’s direction. Project requires conceptualization, execution, preparation of a written report, and defense of that report before a faculty committee. Intended to be a major project or capstone activity completed at the end of a student’s program of study. It must be an individual effort, not a group project. Prerequisites: graduate-level research methods class.

Criminal Justice

The Criminal Justice Program offers the Bachelor of Science and Master of Arts degrees in criminal justice. These degree programs are designed to provide preservice and inservice students with a broad educational background in all aspects of the criminal justice field. The Bachelor of Science degree program is described below.

Major. The major in criminal justice consists of at least 36 hours (but not more than 50 hours will count toward the BS degree) with at least 21 semester hours of upper-division course work in criminal justice. English 210, an additional requirement, is to be taken during the first two semesters as a criminal justice major. Students who plan to graduate with a BS in criminal justice must also satisfy 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 two areas:

1. Core courses: CJ 191Q, 291, 292, 394, and 593; and SUPA 407 or 597.

2. Students must complete the 18 hours of core courses and 18 hours of electives. Students may take 14 additional credit hours beyond the 36 hours required for the major (for a total of 50 hours). 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 481, 482, and 483.

Minor. The minor in criminal justice consists of at least 18 hours of criminal 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. CJ 191Q

2. A minimum of two and a maximum of three of the following courses: CJ 291, 292, and 394; and SUPA 407.

Certificate Programs in Criminal Justice

Certificate programs are designed to enhance the career needs of law enforcement and other criminal justice system professionals or those who contemplate a career in the criminal justice profession. A certificate is not a substitute for an academic degree and will not qualify a person for a position which requires a degree.

Certificate in Forensic Criminology

The Certificate in Forensic Criminology is a four-course sequence that provides a study of the application of the natural sciences to assist law enforcement and the criminal justice system. It is designed for:

- Individuals who want to work as crime scene investigators, criminal investigators and crime laboratory personnel.
- Individuals who have an interest and future career plans in policing and scientific crime detection.
- Individuals who want exposure and knowledge of forensics as a possible career choice.

To qualify for a Certificate in Forensic Criminology, students must complete four of the following courses with an average grade of B or better. CJ 191Q, Introduction to Criminal Justice, is a prerequisite for all courses.

CJ 341, Criminalistics and Scientific Crime Detection
CJ 343, Special Investigations
CJ 541, Medical and Legal Aspects of Death Investigation
CJ 600, Forensic Anthropology
CJ 641, Forensic Psychiatry
CJ 643, Forensic Science

Certificate in Cross-Cultural Communications in Criminal Justice

The Certificate in Cross-Cultural Communications provides learning experiences that will prepare practitioners to promote favorable interaction between criminal justice agencies and the minority groups they serve. This emphasis area prepares students to develop empathetic 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 criminal justice also may obtain the Certificate in Cross-Cultural Communications in addition to the BS in criminal justice degree. Those students seeking this certificate must satisfactorily complete Min. S. 210Q, Fundamentals of Cross Cultural Communication, and one of the following:

Min. S. 331, The Black Family
Min. S. 332, The Native American Min. S. 333, Issues in the Chicano Community
Min. S. 334, Ethnic American in the Twentieth Century

Also, students must take 12 additional hours in minority studies courses work, nine of which must be in upper-division courses.

Certificate in Corrections

The Certificate in Corrections is designed to enhance the career needs of:

- Individuals who are employed as correctional practitioners.
- Individuals who want exposure to corrections as a possible career choice.

To qualify for a Certificate in Corrections, students must complete four of the
following courses with an average grade of B or better. CJ 191Q is a prerequisite for all courses.

CJ 291, Corrections
CJ 310, Community-Based Corrections
or CJ 896, Seminar in Corrections
CJ 610, Correctional Counseling
CJ 652, Juvenile Justice and Social Policy

Certificate in Law Enforcement
The Certificate in Law Enforcement is designed to enhance the career needs of:
- Law enforcement officers.
- Individuals who want exposure and knowledge of law enforcement as a career choice.

To qualify for a Certificate in Law Enforcement, students must complete four of the following courses with an average grade of B or better. CJ 191Q is a prerequisite for all courses.

CJ 292, Law Enforcement
or CJ 895, Policing in America
CJ 341, Criminalistics and Scientific Crime Detection or CJ 343, Special Investigations
CJ 692, Community Policing
CJ 861, Police Administration

Note: For other relevant/required courses, see Urban and Public Affairs (SUPA) course listings.

Lower-Division Courses
CJ 191Q, unless otherwise noted, is a prerequisite or corequisite for all criminal justice courses.

> CJ 191Q, Introduction to Criminal Justice. (3).
General education course. 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.

291. Corrections. (3).
A survey course; presents an overview of the role, structure and function of the correctional system in American society. Emphasizes the principal aspects of both institutional and community-based corrections. Prerequisite or corequisite: CJ 191Q.

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: CJ 191Q.

Upper-Division Courses

310. Community-Based Corrections. (3).
Focuses on the analysis and evaluation of programs in community settings such as diversion, probation, parole, halfway houses, furlough, study release, work release, and restitution. Discusses programs in terms of their definition, history, purpose, administration/process, problems, cost, and effectiveness. Prerequisite: CJ 191Q.

315Q. Criminal Law. (3).
History, scope, and nature of law; parties to crime; classification of offenses; act and intent; capacity to commit crime; and defenses. Examines elements of major criminal statutes and an overview of criminal processes and rules of evidence.

320. Criminal Procedure. (3).
Criminal procedure in the criminal justice system, including rights of accused, initiation of prosecution, rules of arrest, search and seizure, and the exclusionary rule.

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: CJ 191Q.

343. Special Investigation. (3).
Care, collection, and preservation of evidence. Studies sources of information and locating subjects, crime scene recording, and investigative techniques applicable to specific offenses. Prerequisite: CJ 191Q.

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.

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.

355. Special Populations in the Criminal Justice System. (3).
Cross-listed as Min. S. 251Q. Examines the role of women and minorities as employees of the criminal justice system. Also explores the role of women, minorities, juveniles, and elderly citizens as individuals who commit crime and are apprehended and sanctioned by the criminal justice system. Considers the unique challenges of each of the four identified populations, including their interactions with law enforcement, the judiciary, and corrections.

381. Special Topics. (1-3).
Group project and inquiry through student investigation under faculty supervision of criminal 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 Criminal Justice. (1-3).
Workshop. Prerequisite: instructor's consent.

394. Courts and Judicial Systems. (3).
Consists of a case study approach of an individual defendant from the time the crime is committed through the defendant's parole (or an actual homicide case in California). Includes legal analysis of the procedures and rules involved throughout the criminal justice process. Student plays the role of the decision maker for the law enforcement, court, and correction agencies, resulting in an in-depth view of the adversary procedures which form the basis for the criminal justice system. Prerequisite or corequisite: CJ 191Q.

An intensive examination of a variety of emerging administrative and management concepts and the processes related to the determination and implementation of management philosophy. Prerequisite: CJ 191Q.

420. Criminal Evidence. (3).
Concepts of criminal evidence rules as they pertain to kinds and degrees of evidence; admissibility or inadmissibility; or excluding evidence; witness 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 criminal justice process. Prerequisite: CJ 191Q.

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. Prerequisite: CJ 191Q.

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. Prerequisite: CJ 191Q.

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 cooperative education coordinator. Prerequisites: criminal justice major, 15 hours of criminal justice courses, junior or senior standing and consent of the criminal justice agency. Offered Cr/NC only.

482. Internship. (1-3).
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 skills derived from the criminal justice curriculum. Interns work 96 hours for three hours credit, there is a maximum of six credit hours. Prerequisites: 15 hours in criminal 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 criminal justice system.
emphasizing the student's research project. Repeatable for credit not to exceed a total of six hours. Prerequisites: 15 hours in the criminal justice core and individual directed study coordinator's 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: CJ 191Q and SUPA 407 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 law enforcement, as well as elaborating the application of these perspectives to criminal justice agencies. Prerequisite: CJ 191Q.

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. Prerequisite: CJ 191Q.

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. Prerequisite: CJ 191Q.

641. Forensic Psychiatry. (3). Analysis of the role of psychiatry in the criminal justice process. Introduces the student to concepts and procedures of forensic psychiatry. Prerequisite: CJ 191Q.

643. Forensic Science. (3). An overview of the various sciences used in the forensic investigation of crime, including toxicology, drug identification, questionable documents, fingerprint and toolmark identification, trace evidence analysis, forensic pathology, forensic serology, forensic odontology, and forensic anthropology. Prerequisite: CJ 191Q.

652. Juvenile Justice and Social Policy. (3). An analysis of decision-making processes in juvenile justice, content of juvenile law and Supreme Court decisions affecting juvenile justice, as well as selected problems in juvenile justice.Reviews the juvenile justice reform movement. Covers delinquency prevention and control, as well as ethical issues associated with juvenile justice. Prerequisite: CJ 191Q.

692. Community Policing. (3). Reviews the various models and strategies of community policing. Examines key concepts, such as problem oriented policing, crime prevention, community relations, and empowering the community, and the integration of these concepts into community policing. Prerequisites: CJ 191Q.

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 cooperative education coordinator. Open only to CJ graduate students. Offered Cr/NC only.

782. Workshop in Criminal Justice. (1-3). Prerequisite: instructor's consent.

783. Advanced Special Topics in Criminal Justice. (1-3). Detailed study of topics in criminal justice with particular emphasis established according to the expertise of the various instructors. Prerequisite: instructor's 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 models.

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.

862. Individual Directed Study in Criminal Justice. (1-6). Faculty directed readings and/or research in special areas of interest in the field of administration of justice. Prerequisite: consent of internship coordinator.

863. Seminar in the Judicial Process. (3). Reviews and analyzes the function of the judicial process, including law, procedure, and organization. Discusses criminal justice organizations, agencies, and institutions. Critical issues facing the criminal justice system, the law, and judicial procedures and practices, as well as related topics. Prerequisite: instructor's consent.

891. Seminar in Corrections. (3). Focuses on the major issues and dilemmas facing modern corrections in America. Includes both institutional programs such as prisons and jails, as well as alternatives in community settings, such as diversion, probation, parole, halfway houses, work release centers, and community corrections.

896. Seminar in Community Policing. (3). Focuses on the major issues and dilemmas facing modern corrections in America. Includes both institutional programs such as prisons and jails, as well as alternatives in community settings, such as diversion, probation, parole, halfway houses, work release centers, and community corrections.

899. Thesis. (3-6). Prerequisite: consent of graduate advisor.

Gerontology

The gerontology program offers the Bachelor of Science and Master of Arts degrees in gerontology. The instructional mission of degree programs in gerontology at Wichita State is to provide knowledge of aging and its impact on individuals, families, and society to students preparing for or engaged in careers in which they will plan, manage, and deliver services for the aging through public or private sector organizations, agencies, and institutions.

The undergraduate major in gerontology, which meets the standards of the Association for Gerontology in Higher Education and follows the Association’s suggested format, consists of 45 hours and leads to the Bachelor of Science degree, described below.

Students who plan to graduate with a BS in gerontology also must satisfy Fairmount College of Liberal Arts and 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 course work is required:

Gerontology courses

Hrs.
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 three hours of elective credit for the second three 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 15 hours of elective coursework in gerontology, including at least one course from each of the following four clusters.

Cluster I. Humanities. Ger. 514, Anthropology of Aging; Ger. 515, Women and Aging; Phil. 327, Philosophy of Health Care.

Cluster II. Behavioral/Social Science. Ger. 512, Minority Aging; Ger. 520, Family and Aging; Ger. 715, Adult Development and Aging.

Cluster III. Physiology/Health. Ger. 537, Social Consequences of Disability; Ger. 550M, Long Term Care and Aging; PHS 550Q, Principles of Dietetics and Nutrition; Soc. 538, Medical Sociology.


Minor. The minor in gerontology consists of at least 15 hours of gerontology courses, including Ger. 100Q and 560, and nine hours selected from the following: Ger. 401, 404, 513, and 518Q.

Note: For other relevant/required courses, see Urban and Public Affairs (SUPA) course listings. See also P. Adm. 710, 725, 745, 775, and 865; Nurs. 789; Acct. 800; Mkt. 800; PHS 804, 812, 818, 822, 826, 826, and 858; and Psy. 813.

Lower-Division Courses

100Q. Introduction to Gerontology. (3). 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.

504. 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 extending human life. Special emphasis on the strengths of the elderly and prevention of psychological problems of the elderly. Prerequisite: Psy. 111Q.

481. Cooperative Education. (1-3). Provides practical field experience, under academic supervision, that complements and enhances the student's academic program. Repeatable up to six hours. Offered Cr/NCr 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 general education requirements.

537. The Social Consequences of Disability. (3). Cross-listed as Soc. 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.

550. Selected Topics in Gerontology. (1-6). Study in a specialized area of gerontology with the focus upon professional 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.

603. 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.

700. 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: Geron. 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

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: Geron. 798. 12 hours of gerontology credit or instructor's consent.

802. Aging Programs and Policies. (3). Analyzes and evaluates policies and programs related to aging and old age. Emphasizes the importance of social values and historical context for understanding current policies, programs, and practices. Prerequisite: Geron. 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 through supervised placement of students in an agency or organization engaging in planning, administering, or providing direct services to older people. Internship requires 200 contact hours for each 3 hours of credit. An internship paper also is required. Prerequisites: 12 hours of gerontology or instructor's consent.

880. Selected Topics in Gerontology. (1-6). Advanced study in a specialized area of gerontology focusing upon professional programs and current issues in the field of aging. Emphasizes 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.

899. Thesis. (1-3). Repeatable, but total credit hours counted toward degree shall not exceed four hours.

Minority Studies

Minority studies is an interdisciplinary program whose primary focus is on developing skills to effectively communicate across cultural boundaries. Also discussed are the unique experiences of various United States minority groups within the context of the larger society. This discussion helps the students understand the role of past experiences in influencing current race and ethnic relations. Students from all backgrounds engage in constructive debates and critical thinking and work diligently with dedicated faculty to develop strategies for harmonious living.

Major. The major in minority studies consists of at least 30 hours, including Min. S. 100Q and 210Q and two of the following: 540, 545, 548, and 725. Students must complete 18 additional elective hours from minority studies in consultation with their advisor.

Minor. A minor in minority studies consists of at least 18 hours. The courses are to be approved by the student's advisor in the program.

Note: For other relevant/required courses, see Social and Urban Affairs (SUPA) course listings.

Lower-Division Courses

>100Q. Introduction to Minority Studies. (3). General education introductory course. 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). General education introductory course. 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. (3). 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). General education further studies course. Cross-listed as Wom. S. 240. An examination of the roles 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, sensibilities, and emotions.

251Q. Women and Minorities in the Criminal Justice System. (3). Cross-listed as CJ 355. 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. Delves 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

>330. Ethnic America, ca 1500-1924. (3). Cross-listed as Hist 332. General education further studies course. An introduction of the ethnic experience from the 1500s to the 1920s. Themes include the context of emigration, immigration laws, nativism and exclusion, adaptation and acculturation, community development, and political empowerment.

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 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.

334. Ethnic America in the Twentieth Century. (3). Cross-listed as Hist 333. General education further studies course. An in-depth study of the ethnic experience in the twentieth century. Major historical topics include identity formations, inter-generational conflict, class differentiation and social mobility, the politics of ethnicity, resistance and civil rights movements, the racialization of immigration laws, and transnationalism.

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.

360. Dealing with Diversity. (3). Discusses the pluralistic nature of U.S. society. Equips students with skills to live and work within a diverse society, paying particular attention to the global community.

370. The Black Experience in America. (3). Examines the status of blacks in American society. Historical background is provided, but emphasizes the status of blacks in the current social, economic, and political framework of this country. Prerequisites: Min. S. 100Q, 210Q or instructor's consent.

380. Native American Tribal Systems. (3). An overview of three tribes from different parts of the U.S. Covers historical background, discussion of governments, and information about culture and prominent individuals through lecture, discussion, and movies.


400. The Black Child. (3). Examines the historical impact of the black experience on black
childhood, growth, and development. Emphasizes the social, educational, and psychological theories, perspectives, and interventions applied to black childrearing. Exposes students to good practices at home, school, and in urban communities that build a healthy sense of self among children. Focuses on contemporary issues and concerns of parents, professionals, and others assisting black children with the transition into adult life. Prerequisites: Min. S. 100Q, 210Q, or equivalent, or instructor’s consent.

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: Program consent.

491. Urban Seminar. (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, Geron. 100, Soc. 111Q or instructor’s consent.

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, Geron. 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.


550. Working with Minority Families. (3). Examines the unique dynamics, forms, and interaction patterns of U.S. minority families within the larger cultural framework. Highlights strengths exhibited by these families and the challenges they face. Discusses intervention strategies to address such challenges. Focuses primarily on four minority groups: African Americans, Asian Americans, Hispanic Americans and Native Americans. Also discusses families from other cultures, domestic and international. Through research and service projects, students have a hands-on experience in working with minority families.

580. Individual Projects. (3). Student conducts independent research related to a specific minority group. Prerequisite: 50 hours of Wichita State credit or program 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 special 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

The Master of Public Administration (MPA) degree at Wichita State University prepares students for professional careers in public and nonprofit organizations. The program is interdisciplinary in nature and is structured to respond to the unique clientele of a public university.

The philosophy underlying the MPA degree is that interdisciplinary approaches are essential for understanding the changing urban environment and for effective performance in management and staff positions in government. In their degree program, students have the opportunity for exposure to the methods and perspectives of the social and behavioral sciences and the humanities. The link between these disciplines and the problems of public management are emphasized through methods which include use of practitioners in the classroom, policy-relevant research assignments, public affairs seminars led by successful professionals, and internships. Most faculty contributing to the degree program have significant professional experience in state and local government and are involved in research relevant to state and local governments and nonprofit organizations in Kansas.

Graduates of the program hold positions ranging from city managers to management analysts in major hospitals. Although the majority are employed in the public sector, some graduates of the program hold positions in the private sector, while still others have pursued additional study in law, doctoral education, or other specializations.

Note: For other relevant/required courses, see Urban & Public Affairs (SUPA) course listings.

Courses for Graduate/Undergraduate Credit

560. The Planning Process. (3). Cross-listed as Pol. S. 560. For students desiring to work in an urban planning agency or who will be involved in planning issues as an administrator at the city, county, state, or federal level. Also for students seeking an understanding of the complex process of urban-related life. Examines the role of planning in solving human and environmental problems. Emphasizes the relationship between specialists, citizens and elective officials as participants in the planning process.

564. Comparative Public Administration. (3). Cross-listed as Pol. S. 564. Studies the administrative system of selected developed and developing countries emphasizing the various methods and approaches of comparative analysis and the relationships between administrative institutions and their environmental settings.


688. Urban Economics. (3). Cross-listed as Econ. 688. 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.

700. Urban Affairs. (3). A study of the policy issues faced by local government in an urban setting from a multidisciplinary point of view.

710. Public Sector Organizational Theory and Behavior. (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 examines issues shaping the future development of the field.

725. Public Management of Human Resources. (3). Cross-listed as Pol. S. 725. Surveys the major areas of management of human resources in the public sector. Includes hiring, training, evaluation, and pay promotion policies. Special emphasis on the laws governing public personnel management and on the unique merit, equal employment opportunity, productivity, unionization, and collective bargaining problems found in the public sector.

745. The Environment of Public Administration. (3). Surveys the political and governmental institutions that underlie the practice of public administration. Includes political systems, constitutional authority, legislative pro-
750. Public Administration Workshops. (1-3). Specialized instruction using variable format in a public administration or urban affairs relevant subject. Repeatable for credit.

755. Special Topics in Urban and Public Affairs. (3). Provides students with an opportunity to engage in advanced study in 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.

765. Public Sector Economics. (3). Cross-listed as Econ. 765. An analysis of fiscal institutions and decision making in the public sector of the American economy, budget planning and execution, taxation, debt, and fiscal policy. Prerequisites: Econ. 201Q and 202Q or instructor's consent.

775. State and Local Government Law. (3). Exposes students to the legal principles which undergird the foundation of governmental operation and administration.

798. Independent Study. (1-3). For graduate students to pursue research in areas not normally covered in course work. Repeatable for credit with departmental consent. Prerequisite: departmental consent.

Courses for Graduate Students Only

825. State and Local Government Administration. (3). Examines administrative leadership in state and local government through case study and field experience. Draws on the experience of professional public managers. Designed for students nearing completion of the Master of Public Administration degree and planning careers in public management. Prerequisite: instructor's consent.

842. Administration in Local Government. (3). Cross-listed as Pol. S. 842. Examination of administrative processes and problems in local government, including the role of the professional chief executive. Examines problems from the following: labor-management relations, program evaluation, county government reform, governmental decentralization, citizen participation, grant-in-aid programs, interlocal cooperation, affirmative action requirements and service contracting. Prerequisite: Pol. S. 317.

855. State and Local Government Finance. (3). Cross-listed as Pol. S. 865 and Econ. 865. An analysis of state and local government expenditure and revenue systems, with an introduction to state and local financial administration. Prerequisites: P. Adm. 765 or instructor's consent.

866. State and Local Financial Systems. (3). Deals with selected aspects of state and local government financial management. Introduces fund accounting, costing of government services, capital budgeting, and asset management. Prerequisite: P. Adm. 865 or instructor's consent.

867. State and Local Government Budgeting. (3). Cross-listed as Pol. S. 867. Analyzes the development and utilization of the budgetary process in government administration emphasizing the budget in relation to its role in policy formulation and management. Prerequisite: P. Adm. 865 or instructor'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 minimum of nine months. Prerequisites: completion of all P. Adm. core courses and 6 hours of additional graduate credit courses.

895. Public Decision Making. (3). Focuses on decision making by public managers through case study method. Reviews models of public decision making. Explores public management from the perspective of public purposes, politics, organizational results, and ethics. Prerequisites: successful completion of all other core courses in the MPA or instructor's consent.

Social Work

The undergraduate social work program offers courses leading to a Bachelor of Social Work (BSW) degree. The principal objective of the BSW program is to prepare students for beginning-level professional social work practice. The undergraduate social work program is accredited by the Council on Social Work Education (CSWE). Students graduating from an accredited BSW program are eligible for professional social work licensure in Kansas and other states.

Progression in the social work program has two key stages: initial admission into the program and application and acceptance into the practicum.

Requirements include a 2.500 overall GPA, 3.000 in entry-level social work courses, 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. Information and application materials for admission into the major and to the field practicum are available from the social work office.

Note: For other relevant/related courses, see Urban and Public Affairs (SUPA) course listings.

Lower-Division Courses


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 interventive strategies used in practice; aspects of the problem-solving process; and attention to the current trends in direct social services. Community service activities are required. Prerequisites: Soc. 111Q and Psy. 111Q.

Upper-Division Courses

300Q. 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 individual, group, and societal needs, to trends in policy, and to current issues.

340Q. Human Sexuality. (3). Cross-listed as Wom. S. 340. 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 address 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/Cr/Ncr.

Courses for Undergraduate/Graduate Credit

500. Social Welfare Development and Policy Analysis. (3). Provides development of analytical frameworks for understanding the processes of policy formation, factors shaping policy decisions, the content of program designs, and the performances of social welfare policy and service programs. Voluntary and proprietary systems are examined in the development of knowledge and skills for the engagement of complex community resources, the promotion of service innovations, and in the shaping of decisions in the arenas of public policy. Emphasis is placed on diverse populations in metropolitan environments. Prerequisites: Pol. S. 121Q or Hist. 132Q, 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 reporting. 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, Children, and Poverty. (3). Cross-listed as Wom. S. 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.

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 these 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 advisor.

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 innovation and change within human service organizations, in program networks, community dynamics, and in arenas of public policy. Social work models are developed to lessen the magnitude of social problems and advance social justice in urban environments with diverse populations and dynamic resource systems. Prerequisites: Sc. Wk. 200, Pol. S. 1312Q or Hist. 132Q.

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 core 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 program consent. Prerequisites: Sc. Wk. 502 and program 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 program consent. Prerequisites: Sc. Wk. 502 and program 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 program in consultation with majors, groups of community practitioners, and area service institutions. Repeatable. Prerequisite: instructor or program consent.


702. Foundations of Generalist Practice II. (3). Provides continued social work practice foundation content with an emphasis on developing generalist knowledge and skill at the group, organizational, community and societal levels. It emphasizes material on group process and organizational and community leadership in the development of a problem-solving model for work with systems of all sizes. Prerequisite: Sc. Wk. 701 or instructor’s consent.

710. Micro Human Behavior and the Social Environment. (3). Provides theories and knowledge of human biopsychosocial development and functioning of individuals and families, and of the transaction between individuals and families and their environment. Presents theoretical perspectives on development over the life span and family functioning. Explores areas of universality and differences among gender, race, ethnicity, class, physical and mental ability, and sexual orientation.

712. Macro Human Behavior and the Social Environment. (3). Provides theories and content on organizational and community structure, dynamics and change, social movements, large groups, and structural oppression, and provides a theory base for the contextualization of social work practice within diverse environments and macro systems. Particular emphasis is placed on understanding the needs of minority communities and on understanding change and empowerment strategies which further social justice in communities and organizations. Prerequisite: Sc Wk 710 or instructor’s consent.

715. Social Welfare Policy and Analysis. (3). Surveys social welfare institutions, emphasizing the strengths and weaknesses of programs within the context of the social problems they address. The comparison of these structures and provisions enables the development and use of frameworks for analyzing social policies and evaluating programs in light of the mission of the social welfare profession; the principles of social and economic justice; and the historical, economic, and political factors which impinge on policy. Content on the effects of policy and social work practice includes the uses of professional roles in shaping the processes of policy formulation in agency and governmental areas.

716. Social Welfare Development. (3). Critical examination of the history of American social welfare institutions, policies, and the social work profession as a context for understanding contemporary social policy issues. Includes students with the knowledge and skills needed to effectively enact policy in practice with clients, and develop social policy both within their agencies and in the larger political arena. Students will develop an appreciation for the profession’s ethical commitment to promoting social justice and the general welfare of society, and to improve social institutions to meet basic human needs. Prerequisite: program approval.

720. Field Practicum I. (3). Placement in community social welfare agencies for supervised periods of observation and direct service assignments emphasizing development of basic practice knowledge and skills. Includes developing understanding of the social welfare agency and its role in the community service network. Corequisite: Sc. Wk. 700.

721. Field Pracicum II. (3). Requires placement in community social welfare agencies for supervised periods of observation and direct service assignments emphasizing development of basic practice knowledge and skills. Includes developing understanding of the social welfare agency and its role in the community service network. Corequisite: Sc. Wk. 702.

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.

751. Fundamentals of Social Work Research. (3). Provides an introduction to the components of quantitative research design, and how research is designed and conducted in social welfare agencies. Students will seek to improve social work practice. The course introduces the basic concepts of the social work research process as well as the methods that are employed. Students will also
develop a framework for critically evaluating methods employed in current social work research and the potential benefits of applying these research findings to social work practice. Prerequisite: program approval.

Courses for Graduate Students Only

810. Cultural Competency for Advanced Generalist Practice. (3). Examines the impact of culture, race, and ethnicity on client/worker interactions. Presents practice theories and interventions for culturally competent advanced generalist practice with different populations. Emphasizes experiential learning of cultural competence skills to provide services cross-culturally. Prerequisite: program consent.

816. Advanced Generalist Practice with Multiple Systems. (3). Provides a critical examination of theories of practice relevant for advanced generalist practice across systems. Theories included address the biological, psychological, social, and spiritual dimensions of human behavior. Emphasizes theories applying to social work intervention with individuals, family systems, and small groups. Prerequisite: program consent.

817. Community Empowerment and Social Administration. (3). Provides students with advanced generalist knowledge and skills for organizing and empowering communities and managing community-based organizations. Examines the history, strategies, and approaches relevant to community organizing. Focuses upon intervention and administrative skills to meet organizational and community needs. Emphasizes understanding the particular needs of minority communities. Prerequisite: program consent.

822. Field Practicum III. (4). Placement in community social welfare agencies for supervised periods applying direct and indirect practice. Provides students the opportunity to integrate and apply advanced generalist practice theory within their field experience. Students are required to demonstrate increased knowledge and skills in practice, research, and evaluation across multi-level systems. Requires 300 hours of agency service. Prerequisite: program consent.

823. Field Practicum IV. (4). Continuation of Sc. Wk. 822. Requires 300 hours of agency service. Prerequisite: program consent.

851. Applied Social Work Research. (3). Prepares students to be ethical practitioners who assess the benefits of social work interventions on an ongoing basis. Because of the importance of evaluation in social work, students develop the research skills needed to evaluate their own practice, conduct program evaluations, use the computer as a research tool, and interpret descriptive and inferential statistics. Prerequisite: Sc. Wk. 751 or program consent.

860. Integrative Seminar for Advanced Generalist Practice. (3). Integrates social work theories, knowledge, and skills to develop each student's framework for advanced generalist practice. Emphasizes applying social work theories in practice with populations at risk of violence. Develops skills in applying a wide array of social work roles within a multi-level practice environment. Prerequisite: Sc. Wk. 816.

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 a major and a minor 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 global social and cultural 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 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, except for 190G, which may be counted.

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 courses. Social science 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 one of the following: Wom. S. 391, 482, or 586

15 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)

To pursue the Social Science focus, the following combinations of courses are possible:

12 hours of required courses, Wom. S. 287Q, 387Q, 587 and one of the following: Wom. S. 391, 482, or 586

15 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)

Group 1: Interdisciplinary women's studies courses: Wom. S. 190G, 287Q, 380K, 387Q, 391, 481, 482, 570, 580, 587, 635


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.

Certificate in Women's Studies. The Certificate in Women's Studies requires 12 hours of courses in women's studies, including either Wom. S. 287Q or 387Q. At least 6 credit hours must be at the 300-level or above, and may include 387Q.

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 assertive training (introductory and advanced) and rape information and prevention.

150C. Assertion Training for Women. (1). Workshop teaches women to develop assertive 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. Examine barriers that exist to assertive behavior and ways to overcome them.

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. Prerequisites: Wom. S. 150C.

180. Special Topics. (1-2). Topics vary by semester.

>190G. The American Woman in Popular Culture. (3). General education introductory course. Examines how women of various races, classes, and ethnicities are represented in a wide variety of popular media. Encourages the critical analysis of why and how these popular representations are politically and socially significant in shaping society's perceptions of the American woman. Also explores the role of women's popular genres.

240. Minority Women In America. (3). Cross-listed as Min. S. 240Q.

>287Q. Women in Society: Social Issues. (3). General education introductory course. Examines women's efforts to gain recognition 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.

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 Engl. 330. 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 out-of-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 ideals about classes of goddesses: 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). General education further studies course. 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). General education further studies course. 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.

391. Women's Global Issues. (3). General education further studies course. 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.

398. Travel Seminar. (1-4). An interdisciplinary travel seminar that allows a student to gain credit for the study of one of the following: culture, art, literature, architecture, politics, society, science, and economics while visiting historic places of interest. Prerequisite: departmental consent.

480. Special Topics. (1-3). Provides an introduction to the exploration of various women's studies' themes.

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/NoCr only.

482. Latina in Culture and Society. (3). Examines what it means to be a Latina and a feminist in U.S. culture, confronting racism and sexism as well as being empowered through Latina identity. The exploration of Latina identity results in creative transformation and a new understanding of the relationship of self to community. Materials drawn from Chicana feminist studies in prose, poetry, criticism, film, and from presentations by guest speakers.

Courses for Graduate/Undergraduate Credit

>511. Women in Early America, 1600-1830. (3). General education further studies course. Traces women's contributions and experiences in building the U.S., from 1600 to the 1830s. Includes both conventional and newly developed methodologies in women's history research.

>512. Women and Reform in America, 1830-Present. (3). General education further studies course. Examines the history of women in the U.S. 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.

523. Feminist Film Criticism. (3). Applies critical methods of analysis from the field of feminist film studies (such as psychoanalysis, ideology critique, close textual analysis, narrative and genre criticism) to the representation of women in film. Emphasizes historical development of feminist film theory and criticism as it relates to classical Hollywood narrative, film genres, and avant-garde film. Prerequisite: 3 hours of upper-level humanities or 3 hours of upper-level women's studies.

530. The American Woman in History. (3). Cross-listed as Hist. 530.

532. Women in Ethnic America. (3). General education further studies course. Cross-listed as Hist. 532 and Min. S. 532. An in-depth, thematic understanding of the historical experiences of women of color across space and time in U.S. history. Employing a female-centered framework of analysis, course probes the intersections of race, class, gender, and sexuality in women's lives.

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. 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, Children, and Poverty. (3). General education issues and perspectives course. 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 Kansas families. Prerequisites: 6 hours of social science preferably in women's studies, including Wom. S. 287Q.

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.

586. Gender, Race, and Knowledge. (3). General education issues and perspectives course. Examines the impact of gender and race on knowledge (understanding of objects, people, events, and activities). Assumes that gender, race, and knowledge are socially constructed categories. Concerned with science as a practice of representation. Focuses on the "white masculinist" ideas or beliefs that motivate and affect the practice of academic disciplines. Discusses: What is the relationship between the making of masculinity and femininity and science? How are gender and race woven into science and social science and with what results? Does the entrance of white women and people of color into the sciences and humanities change how they are practiced? Do they produce significantly different understanding about the world? Central premise is that all knowledge emerges from some type of love or passion. What types of passion produce knowers, knowing, and the known?

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 388Q, 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 projects. Previous topics include Advanced Theories of Feminism and Contemporary Women's Fiction. Repeatable for credit with departmental consent. Prerequisite: 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.
University Faculty—January 1999

Note: This listing reflects the faculty at Wichita State University as of January 15, 1999.


Abdinnour-Helm, Sue, Assistant Professor, Finance, Real Estate, and Decision Sciences (1998). BS, Birzeit University, 1983; MS, Southampton University, 1988; PhD, Indiana University, 1994.


Ackerman, Paul D., Assistant Professor and Assistant Chairperson, Psychology (1968). BA, University of Kansas, 1964; MA, 1966; PhD, 1968.


Alagic, Suad, Professor, Computer Science (1993). BS, University of Sarajevo, 1970; MS, University of Massachusetts, 1972; PhD, 1974.

Alexander, David R., Professor, Physics, and Executive Director, Fairmont Center for Science and Mathematics Education (1971). BS, Kansas State University, 1967; AM, Indiana University, 1969; PhD, Purdue University, 1973.

Ali, Shahid L., Visiting Assistant Professor, Finance, Real Estate, and Decision Sciences (1997). BS, University of Engineering and Technology, Pakistan, 1982; MBA, Emporia State University, 1987; PhD, Texas Tech University, 1990.

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, 1985.

Armstrong, Richard N., Assistant Professor and Associate Director, 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, Edgecliff College, 1974; MA, University of Cincinnati, 1976; PhD, University of California, 1981.

Badger, Barry T., Assistant Professor, School of Art and Design (1993). BFA, Virginia Commonwealth University-Richmond, 1985; MFA, Syracuse University, 1990.

Bagai, Rajiv, Associate Professor and Graduate Coordinator, Computer Science (1990). MS, Birla Institute of Technology and Science, 1983; MS, University of Virginia, 1987; PhD, 1991.


Bair, Sue F., Assistant Professor, Kinesiology and Sport Studies (1966). BA, Wichita State University, 1961; ME, 1967.

Bajaj, Prem N., Associate Professor, Mathematics and Statistics (1968). BA, Punjab University, 1951; MA, 1954; MS, Case Western Reserve University, 1967; PhD, 1968.

Bakken, Linda, Associate Professor, Administration, Counseling, Educational, and School Psychology (1985). BA, Northern Michigan University, 1966; 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, 1959; MEd, Texas Tech University, 1963; EdD, 1970.


Baughman, Margaret, Assistant Professor, English (1993). BA, University of Virginia, 1979; MS, Northwestern University, Evanston, 1980; MPA, City University of New York, Brooklyn College, 1989.


Bean, Matt, Associate Professor and Associate Director, School of Musical Theatre (1999). BA, Brigham Young University, 1983; MM, Manhattan School of Music, 1985; DM, Indiana University, 1991.

Bees, Julie L., Associate Professor, School of Music (1986). BM, Peabody Conservatory, 1974; DMA, University of Colorado-Boulder, 1982.

Beggs, Donald L., President and Professor of Education (1999). BSE, Southern Illinois University, 1963; MED, 1964; PhD, University of Iowa, 1966.


Bennett, John A., Associate Professor and Chairperson, Management (1971). BA, University of Southern California, 1966; PhD, Texas Tech University, 1971.


Berman, Nancy, Associate Professor, Management, and Associate Dean, W. Frank Barton School of Business (1980). BA, Wichita State University, 1969; MBA, 1974; PhD, University of Minnesota, 1983.

Berley, Visiting Assistant Professor, Religion (1997). BA, University of Manitoba, 1983; MDiv, Lutheran Theological Seminary, 1985; STM, St. Andrew's College, 1989; PhD, Emmanuel College, University of Toronto, 1996.


Billings, Dorothy K., Associate Professor, Anthropology (1968). BA, University of Wisconsin, 1955; PhD, University of Sydney, 1972.

Bischoff, William, Associate Professor, Geology, and Associate Dean, Liberal Arts and Sciences (1984). BA, DePauw University, 1979; MS, Northwestern University, 1982; PhD, 1985.

Black, Linda, Assistant Professor and Interim Chairperson, Physical Therapy (1990). BS, University of Kansas, 1984; MBA, University of California, 1984.

Black, Phillip C., Assistant Professor, School of Music (1986). BM, Ball State University, 1977; MM, University of New Mexico, 1980.

Blakeslee, Donald J., Professor, Anthropology (1976). BA, University of Nebraska, 1969; MA, 1971; PhD, University of Wisconsin-Milwaukee, 1975.

Blocher, Larry R., Associate Professor, School of Music (1995). BME, Morehead State University, 1975; MME, 1977; PhD, Florida State University, 1986.

Boggs, Donna J., Visiting Assistant Professor, Chemistry (1991). BS, McPherson College, 1965; MSE, Wichita State University, 1972; PhD, Kansas State University, 1981.

Bolick, Margaret E., Associate Professor, Curriculum and Instruction (1998). BA, University of Texas-Austin, 1971; MEd, 1976; PhD, Kansas State University, 1986.


Bore, John D., Jr., Associate Professor, His-


Davidson, Harry, Professor, School of Music, and Director of Orchestras (1998). BA, Case Western Reserve University, 1978; MM, Pacific Lutheran University, 1983.


Davis, Gayle R., Associate Professor, Women’s Studies and Arts and Science Vice President, Administration (1982). BS, Muskingum College, 1968; MA, Michigan State University, 1975; PhD, 1981.


deSilva, Dharma, Professor, International Business and Management, and Director, Center for International Business (1976). BSBA, University of Evansville, 1957; MS, Southern Illinois University, 1959; PhD, Indiana University, 1966.

Dekse, James W., Professor, School of Accountancy (1985). BBA, University of Oklahoma, 1960; MBA, 1961; PhD, University of Texas-Austin, 1965. CPA-Okahoma and Texas.

Detjen-Montero, Wilma E., Associate Professor, Meteorological and Environmental Sciences (1983). BA, University of Calgary, 1971; MA, California State University-Sacramento, 1982; PhD, University of California-San Diego, 1976.


DeSilva, Dharma, Professor, International Business and Management, and Director, Center for International Business (1976). BSBA, University of Evansville, 1957; MS, Southern Illinois University, 1959; PhD, Indiana University, 1966.

Deskins, James W., Professor, School of Accountancy (1985). BBA, University of Oklahoma, 1960; MBA, 1961; PhD, University of Texas-Austin, 1965. CPA-Oklahoma and Texas.

Detjen-Montero, Wilma E., Associate Professor, Meteorological and Environmental Sciences (1983). BA, University of Calgary, 1971; MA, California State University-Sacramento, 1982; PhD, University of California-San Diego, 1976.


Deskins, James W., Professor, School of Accountancy (1985). BBA, University of Oklahoma, 1960; MBA, 1961; PhD, University of Texas-Austin, 1965. CPA-Oklahoma and Texas.

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Detjen-Montero, Wilma E., Associate Professor, Meteorological and Environmental Sciences (1983). BA, University of Calgary, 1971; MA, California State University-Sacramento, 1982; PhD, University of California-San Diego, 1976.

Solc, David E., Associate Professor and Chairperson, Philosophy (1974, 1982). BA, University of Pittsburgh, 1959; PhD, Johns Hopkins University, 1967.


Solc, Derek, Associate Professor, English, and Director, Writing Program (1999). BA, University of British Columbia, 1971; MA, University of Victoria, 1977; PhD, 1989.

Spears, Syed M., Associate Professor, Physics (1976). BS, University of Utah, 1964; MS, 1966; MA, California State University-Long Beach, 1970; PhD, Washington State University, 1974. Fellow, 1984, 1989. BSC (Hon), Nagpur University, India, 1948; PhD, 1954; PhD, Ohio State University, 1957.

Talia, Jorge E., Associate Professor, Mechanical Engineering (1985). BS, Instituto Superior Abelláz, Argentina, 1969; MA, Case Western Reserve University, 1978; PhD, 1980.

Tendler, William J., Carmie, School of Nursing, and Associate Dean, College of Health Professions (1999). BS, University of Missouri, 1960; MS, Washington University, 1965; Certificate in Gerontology, University of Denver, 1982, PhD, 1984.


Thomas, Philip D., Professor, History (1965, 1984). BA, Baylor University, 1960; MA, University of New Mexico, 1965; PhD, 1965.

Tomblin, John J., Assistant Professor, School of Music (1990). BME, University of Kansas, 1968; MM, Fort Hays State University, 1972; MA, Wichita State University, 1990.

Steck, James E., Associate Professor, Mechanical Engineering (1990). BS, University of Missouri-Rolla, 1980; PhD, 1985.

Steinke, Elaine, Associate Professor, School of Nursing (1990). BSN, Wichita State University, 1979; MN, 1982; PhD, Kansas State University, 1987.


Sudermann, Frederick, Assistant Professor, Political Science, and Senior Advisor to the President (1960-1969). BA, Wichita State University, 1958; MA, 1960.


Swan, James H., Associate Professor, Public Health Sciences (1992). BA, Wichita State University, 1969; MA, 1973; PhD, Northwestern University, 1981.

Swank, Linda K., Associate Professor and Chairperson, Communicative Disorders and Sciences (1998). BA, Wichita State University, 1974; MA, 1975; PhD, University of Kansas, 1991.

Taher, Syed M., Associate Professor, Physics (1976). BS, Dacca University, 1964; MS, 1966; MA, California State University-Long Beach, 1970; PhD, Washington State University, 1974. Fellow, 1984, 1989. BSC (Hon), Nagpur University, India, 1948; PhD, 1954; PhD, Ohio State University, 1957.

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Tomblin, John J., Assistant Professor, School of Music (1990). BME, University of Kansas, 1968; MM, Fort Hays State University, 1972; MA, Wichita State University, 1990.

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Steinke, Elaine, Associate Professor, School of Nursing (1990). BSN, Wichita State University, 1979; MN, 1982; PhD, Kansas State University, 1987.


Sudermann, Frederick, Assistant Professor, Political Science, and Senior Advisor to the President (1960-1969). BA, Wichita State University, 1958; MA, 1960.


Swan, James H., Associate Professor, Public Health Sciences (1992). BA, Wichita State University, 1969; MA, 1973; PhD, Northwestern University, 1981.
1963; PhD, North Carolina State University, 1968. Licensed Professional Engineer-Kansas, West Virginia.

Williams, Brian W., Assistant Professor, Library, and Business Librarian (1983). BA, Ball State University, 1975; MBA, 1981; MLS, Indiana University, 1983.

Williamson, L. Keith, Associate Professor, Elliott School of Communication, and Director, Basic Oral Communication Program (1977). BA, Wichita State University, 1965; MTh, Southern Methodist University, 1968; PhD, Temple University, 1975.


Wimalasena, Kandatege, Associate Professor, Chemistry (1989). BS, University of Peradeniya, Sri Lanka, 1977; PhD, Georgia Institute of Technology, 1986.

Wine, Thomas, Assistant Professor, School of Music (1995). BA, Alderson-Broaddus College, Philippines, 1980; MME, Duquesne University, 1982; PhD, Florida State University, 1994.

Wineke, Donald R., Associate Professor, English (1971). BA, University of Washington, 1966; MA, Pennsylvania State University, 1966; PhD, Indiana University, 1971.

Withrow, Brian, Assistant Professor, Hugo Wall School of Urban and Public Affairs, Criminal Justice Program (1999). BA, Stephen F. Austin State University, 1981; MPA, Southwest Texas State University, 1995; PhD, Sam Houston State University, 1999.


Wong, John D., Associate 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, Elliott School of Communication, and Executive Director, Media Resources Center (1985). BS, Kansas State University, 1969; MS, 1973; MFA, University of Southern California, 1979.


Wright, David W., Assistant Professor, Sociology (1995). BA, Indiana University-Purdue University at Indianapolis, 1987; MA, Purdue University, 1989; PhD, 1992.

Wyatt, Frank B., Assistant Professor, Kinesiology and Sport Studies (1998). BS, North Texas State University, 1977; MA, San Francisco State University, 1985; PhD, University of Northern Colorado, 1996.


Yang, C. Charles, Assistant Professor, Mechanical Engineering (1997). BS, National Taiwan University, 1985; MS, 1987; PhD, Louisiana State University, 1993. Licensed Professional Engineer—Louisiana.


Yoelis, Catherine G., Assistant Professor, Curriculum and Instruction (1979). BS, Michigan State University, 1963; MS, Purdue University, 1973; PhD, 1978.

York, Paul K., Professor, Electrical and Computer 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 (1965). BA, Montana State University, 1959; MS, Case Western Reserve University, 1961; PhD, University of Texas, 1965.

Zandler, Melvin E., 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.

Retired Faculty

Ahlberg, Clark D.
Allen, Annie S.
Allen, June S.
Anderson, Robert E.
Armstrong, Warren B.
Arreaga, Lucio
Bateman, Morita C.
Bartel, Peter
Benningfield, Lloyd M.
Berg, J. Robert
Bernard, David E.
Bernhart, Walter D.
Betz, D.R.
Bish, John T.
Borresen, C. Robert
Bowyer, James M.
Brandhorst, Armin L.
Breazeale, John B.
Breuer, Jeneva J.
Brinkman, Sidney
Burt, Kenneth W.
Bush, Martin H.
Carson, Doris M.
Cesar, James J.
Chaffee, Howard M.
Chambers, Randall M.
Chrisman, Paul G.
Collins, George
Comstock, George A.
Corbett, Donald L.
Crane, Hubert D.
Craig, Andrew J.
Cress, Allan
Crowns, Arthur J., Jr.
Cuthbertson, K. Jean
Decker, Jay C.
Dey, Glen R.
Doig, J. Robert, Jr.
Douglas, Donald M.
Douglas, J. Rex
Drale, Lewis A.
Duell, Dennis C.
Dunning, Wayne W.
Edgington, Mary P.
Eller, James C.
Ellis, Howard E.
Erickson, James
Fairies, Wesley L.
Farnsworth, David N.
Fife, Natasha M.
Fisher, Glenn W.
Fisher, James E.
Froning, Dorothy Gardner
Fry, Maurice A.
Fugate, Josephine B.
Gane, Elizabeth
Gardner, Jo E.
Gass, Marcelle B.
Gates, Therese
Gibson, George
Gleason, Kenneth G.
Goldman, Louis
Goodell, Phillip W.
Gosman, Albert L.
Graham, J. Keith
Gregg, Alvin L.
Gribble, Norma C.
Griffith, Kathryn
Halstead, Helen L.
Hammond, Geraldine
Hansan, John
Hardy, James L.
Harmon, Dorothy
Harnsberger, John L.
Hartman, John J.
Haydon, Randall B.
Hecht, Sabrina
Heilmann, Charles E.
Hoag, Gerald
Holmes, Ellen C.
Holmes, Lovell
Holstrom, Wayne L.
Holt, Nelda
Houston, Martha P.
Humphrey, Bobby J.
Hutcherson, Bernice
Ingmire, Bruce D.
Jackson, Bill
Jamine, Ines
Jantz, Margaret L.
Johnson, John W., Jr.
Johnson, M. Claradine
Jones, Billy M.
Kastor, Frank S.
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; T, theory; 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.

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Ahlberg Hall (C)
Blake Hall (B)
Brennan Hall I (C)
Brennan Hall II (C)
Brennan Hall III (C)
CAC Theater (C)
Central Energy Plant (D)
Cessna Stadium (C)
Child Development Center (A)
Clinton Hall (C)
Communications Building (B)
Corbin Education Center (D)
Credit Union (D)
Devin Hall (C)
Duerksen Fine Arts Center (B)
Eck Stadium (E)
Edwin A. Ulrich Museum of Art (B)
Elliot Hall (C)
Engineering Building (D)
Fairmount Towers Commons (A)
Fairmount Towers North (A)
Fairmount Towers South (A)
Fiske Hall (B)
Gaddis Physical Plant Complex (D, E)
Gardner Plaza (C)
Geology Building (C)
Golf Course Maintenance Building (E)
Golf Pro Shop (F)
Grace Memorial Chapel (C)
Grace Wilkie Hall (D)
Henrian Hall (C)
Heskett Center (D)
Heskett Center Storage (D)
Housing Maintenance Shop (A)
Hubbard Hall (C)
Human Resources Center (C)
Intensive English Language Center (A)
Jabara Hall (C)
Jardine Hall (C)
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Lindquist Hall (C)
Lutheran Student Center (D)
Marcus Center for Continuing Education (F)
McKinley Hall (B)
McKnight Art Center (B)
Media Resources Center (D)
Memorial '70 (B)
Morrison Hall (C)
National Institute for Aviation Research (E)
Neff Hall (C)
Newman Center (D)
Original Pizza Hut (D)
Police Department (D)
President's Residence (B)
Publications (D)
Rhatigan Student Center (C)
Sheldon Coleman Tennis Complex (C)
Tyler Field (E)
University Alumni and Faculty Club (F)
Visual Communications (D)
Wallace Hall (D)
Wheatshocker Apartments (E)
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Wilner Auditorium (B)
Woodman Alumni Center (F)

Fraternities
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Beta Theta Pi (A)
Delta Upsilon (C)
Kappa Sigma (D)
Phi Delta Theta (E)
Sigma Alpha Epsilon (B)
Sigma Phi Epsilon (C)

Sororities
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Delta Delta Delta (D)
Delta Gamma (D)
Gamma Phi Beta (D)

Wichita State University has an ongoing program to provide people with disabilities full access to all buildings; however, some barriers still exist. For more information regarding any campus building's accessibility to the disabled, call the Office of Disability Services, (316) 978-3309.

Visitors to the Wichita State campus should obtain temporary parking permits from the Police Department, open 24 hours a day.

For more information contact the Wichita State University Office of Admissions, 111 Jardine Hall, (316) 978-3085.
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Academic Programs at Wichita State University
Are Accredited by or Hold Membership
in the Following Associations

North Central Association of Colleges and Schools*
AACSB—the International Association for Management Education
Accreditation Board of Engineering and Technology
American Bar Association
American Speech-Language and Hearing Association,
North Central Association of Colleges and Schools
Commission on Accreditation of Allied Health
Education Programs
Commission on Accreditation in Physical Therapy Education
of the American Physical Therapy Association
Commission on Dental Accreditation of the
American Dental Association
Council on Education for Public Health
Council on Social Work Education
Kansas Board of Emergency Medical Services
Kansas State Board of Nursing
Kansas State Department of Education
National Accrediting Agency for
Clinical Laboratory Sciences
National Association of School Psychologists
National Association of Schools of Dance
National Association of Schools of Music
National Council for Accreditation of Teacher Education
National League for Nursing

*North Central Association of Colleges and Schools Commission on Institutions of Higher Education;
30 North LaSalle Street, Suite 2400; Chicago, Illinois 60602-2504; (800) 621-7440.

A complete listing of the programs and degrees offered at Wichita State University is located on the inside back cover of this Catalog.