Catalog
1979-80

WICHITA STATE UNIVERSITY
Wichita State University

1979-80
CATALOG
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The official University address is:
Wichita State University
Wichita, Kansas 67208
The general University telephone number is: (316) 689-3456.

Covers: Personnages Oiseaux ("Bird Characters"), the colorful 28-foot by 52-foot mosaic mural mounted on the south wall of the Edwin A. Ulrich Museum of Art at Wichita State University, was designed by the great Spanish artist Joan Miró. On the front cover is the painting by Miró that served as the maquette for the mosaic. On the back cover is a photo of the mural as it appears on the Ulrich Museum.
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President Clark D. Alhberg works with students in planning University events.
GENERAL INFORMATION

Administrative Officers

WICHITA STATE UNIVERSITY

Clark D. Ahlberg ........................................ President of the University
John B. Breazeale .......................................... Vice President for Academic Affairs
and Dean of Faculties
James J. Rhatigan ........................................ Vice President for Student Affairs
and Dean of Students
H. R. Reidenbaugh ........................................ Executive Vice President of the Board of Trustees and
Executive Secretary to the Endowment Association
Roger D. Lowe ............................................. Vice President for Business Affairs
Martin H. Bush ............................................ Vice President for Academic Resource Development
Lloyd M. Benningfield ...................................... Dean of Graduate Studies and Research
Douglas Sharp ............................................... Dean of the College of Business Administration
Leonard M. Chaffee ......................................... Dean of the College of Education
William J. Wilhelm ......................................... Dean of the College of Engineering
Gordon B. Terwilliger ....................................... Dean of the College of Fine Arts
Sidney D. Rodenberg ......................................... Dean of the College of Health Related Professions
Paul J. Magelli ............................................... Dean of the Fairmount College of Liberal Arts and Sciences
David E. McFarland .......................................... Dean of University College and Assistant
Vice President for Student Affairs
David L. Meabon ............................................ Dean of Student Life and Services
James H. Petree ............................................ Dean of Continuing Education
C. Russell Wentworth ....................................... Dean of Admissions and Records and
Director of Summer Session
Bobbye J. Humphrey ......................................... Assistant Dean of Faculties for Personnel
Jacqueline J. Snyder ......................................... Assistant Vice President for Academic Affairs
Jasper G. Schad ............................................... Director of Library and Media Resources Center
Max A. Schaible ............................................... Director of Information and Public Events
Anthony E. Neville ........................................... Director of Communications and Editor of Alumni Publications
George M. Platt ............................................... Director of Planning and Institutional Studies
Frederick Sudermann ......................................... Director of Research and Sponsored Programs
Armin L. Brandhorst ......................................... Director of Physical Plant
Theodore C. Bredehoft ....................................... Director of Athletics
Natasha M. Fife ............................................... Director of Women's Athletics
Jane Gilchrist ................................................ Executive Director of the Alumni Association

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Wichita State University Officers
Wichita State University, a medium-sized, state-supported university, is located in the northeast section of Kansas’ largest economic, cultural and population center; Wichita, a city of about 264,000 people, is located along the Arkansas River.

Since 1964, when the University entered the Kansas state system, the University’s enrollment and budget have nearly doubled to meet the needs of a rapidly growing student body, now totaling 16,000 students. Students from every county in Kansas, nearly every state in the Union and 40 foreign nations are enrolled in both daytime and evening courses offered by the various schools and colleges of the University. An urban institution, Wichita State has over 11,500 students who are employed either full or part time; 1,700 who are on the G. I. Bill; and 2,100 who are over 30 years of age. The average age of Wichita State students is 26. Over 3,500 students are enrolled in the University’s graduate programs. The University’s faculty, growing with the rest of the University, currently numbers more than 870 members.

Students at Wichita State can choose from more than 170 areas of academic concentration within the University’s eight schools and colleges. The College of Business Administration, College of Education, College of Engineering, College of Fine Arts, College of Health Related Professions, Fairmount College of Liberal Arts and Sciences, University College and the Graduate School all offer complete programs in their areas. The Division of Continuing Education administers to the needs of students interested in furthering their education but not committed to a degree program.

The academic programs at Wichita State culminate in bachelor’s, master’s, specialist and, in some cases, doctoral degrees. Wichita State offers a Doctor of Philosophy (PhD) in logopedics and engineering and a transfer doctoral program in educational administration and supervision.

Wichita State’s Summer Session features a flexible time format. In addition to the regular eight-week session, there is a three-week pre-sessions as well as two four-week sessions, held concurrently with the regular session. The University traditionally has a larger summer enrollment than any other college or university in Kansas.

Wichita State strives to attain four basic objectives:

1. The University provides general education through the newly developed general education program and University College, a general college in which all entering freshmen are enrolled.

2. The University offers advanced and special education through the various major studies in liberal arts and sciences and in the degree programs of the professional schools or colleges.

3. The University, through the Division of Continuing Education, provides continuing educational opportunities for adults through special seminars, workshops, classes and related University programs and activities.
4. The University promotes graduate studies and stimulates research through a variety of graduate programs authorized by the Kansas Board of Regents, as well as through ongoing programs of University research and research sponsored by outside organizations. Implicit in all the University's objectives are student welfare and continuing public service.

HISTORY
Wichita State University began as Fairmount College in 1895 with 16 students and 3 instructors. The college, founded by the Congregational Church, was governed by the church until 1926, when the citizens of Wichita voted to make Fairmount College the Municipal University of Wichita. The University was then placed under the direction of the Board of Trustees.

After 38 years as a municipal institution, the University again changed its status on July 1, 1964, and officially entered the state system of higher education. In its present status, Wichita State is one of six state institutions of higher education governed by the Kansas Board of Regents.

ACCREDITATION AND ASSOCIATIONS
Wichita State is accredited by the North Central Association of Colleges and Schools. Specific programs are also accredited by the following professional organizations: American Assembly of Collegiate Schools of Business, American Chemical Society, American Medical Association Council on Medical Education, American Nurses Association, American Speech and Hearing Association, Association of University Programs in Health Administration, Engineers' Council for Professional Development (Aeronautical, Electrical, Industrial and Mechanical), Council on Dental Education of the American Dental Association, Council on Social Work Education, Kansas State Department of Education, National Association of Schools of Music, National Council for the Accreditation of Teacher Education, and National League for Nursing.

Women graduating from Wichita State with bachelor's degrees or higher are eligible for membership in the American Association of University Women.

POLICIES
Human Relations
It is the policy of Wichita State University not to discriminate on the basis of race, color, religion, national origin, sex, age, disability or political affiliation in its education programs, activities or employment policies as required by the Civil Rights Act of 1964 and subsequent amendments (including Title IX of the Education Amendments of
1972), federal executive orders, federal regulations and guidelines, and the State's Executive Order No. 75-9. The University is further committed to take affirmative action to assure that equality of opportunity shall exist. Questions concerning discrimination should be directed to James J. Rhatigan, vice president for student affairs and dean of students, 101 Morrison Hall.

Student Responsibility

Students at Wichita State University have the following responsibilities:

1. To consult their advisers on all matters pertaining to their academic careers, including changes in their programs
2. To observe all regulations of their college and select courses according to the requirements of that college
3. To attend all meetings of each class in which they are enrolled (instructors will announce at the beginning of the semester if they consider attendance in computing final grades)
4. To fulfill all requirements for graduation
5. To be personally responsible for fulfilling all requirements and observing all regulations at Wichita State
6. To answer promptly to all written notices from advisers, faculty, deans and other University officers
7. To file an Application for Degree card in the dean's office of the appropriate college at least one semester before the expected date of graduation.

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

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

**Academic Honesty**

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

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

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

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

*Wichita State University/Profile 11*
Open Records

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

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

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

Information in students' records will not be released without their permission unless they have waived their right in writing.

Exceptions to these statements are noted in Public Law 93-380. A copy of the law is available to all students in the Division of Student Affairs, 101 Morrison Hall.

Admission to Wichita State

Wichita State admits traditional 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 may result in dismissal.)

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

Transcripts received in the Office of Admissions should 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 sex, race, physical handicap, nationality or creed.

**DEGREE-BOUND STUDENTS**

**Freshmen**

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

High school seniors interested in freshmen admission at Wichita State may also apply by completing a regular University application for admission and having a six-semester transcript and ACT scores sent to the University.

Freshman applicants who have already graduated from high school should send the application to Wichita State and ask their high school to send a copy of their transcript and ACT scores to the Wichita State Office of Admissions. Graduates of an accredited Kansas high school who have not previously attended a college will be admitted to Wichita State once their applications have been processed and their transcripts showing the date of graduation (or GED scores) and ACT scores have been received.

Out-of-state students who will be or have been graduated from a non-Kansas high school or preparatory school should follow the same procedures outlined above. To be eligible for admission, out-of-state students must (1) rank in the upper one-half of their high school graduating class or (2) present acceptable ACT/SAT test scores or (3) high school grades of 2.00 or better on a 4.00 system. Exceptions may be made under special circumstances when valid reasons prevail. Priority of admission among out-of-state students is given to sons and daughters of Wichita State alumni.

Applicants without a secondary school diploma who wish to be considered for admission to freshman standing should present their case to the Office of Admissions.

Students applying for scholarships or financial aid should plan to take the ACT in October or November to meet the February 15 priority deadline for the financial aid application. The University needs only the ACT-Family Financial statement for financial aid.
All entering freshmen are enrolled in University College. The orientation office will send all freshmen complete information about orientation and enrollment. See the University College section of the Catalog for more information.

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

Transfers

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

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

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

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

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

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

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

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

Wichita State will accept college-level courses from other recognized colleges and universities for transfer credit as defined by Transfer Credit Practices of Selected Educational Institutions, published annually by the American Association of Collegiate Registrars and Admissions Officers. This publication divides schools into three categories, and credit is given according to the type of institution: courses applicable to a baccalaureate degree and taken at G schools are transferred to Wichita State with full credit; courses taken at L schools may be transferred to Wichita State only if it is determined that they are equivalent to Wichita State courses; and courses taken at P schools may be transferred to Wichita State only after students have completed 30 semester hours of 2.00 (C) or better work at Wichita State and the courses have been determined to be equivalent to Wichita State courses.

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

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

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

International Students

International students may be admitted to Wichita State and must follow several guidelines to obtain admission:

1. They must graduate from an accredited high school or college.
2. They must present proof of proficiency in English. If the student has not taken the TOEFL (Test of English as a Foreign Language) or if the score is not acceptable, the student must take a proficiency examination upon arrival on campus. Depending on the level of English proficiency, classes in intensive English may be required.
3. They must have a notarized statement of financial responsibility in an amount of $5,610 or more to cover expenses for 12 months.
4. They must submit a University health form which has been completed by a physician.
5. They must enroll in at least 12 hours at the undergraduate level or in at least 9 hours at the graduate level.

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

For further information or to obtain an application form, write:
Office of Admissions
111 Jardine Hall
Wichita State University
Wichita, KS 67208

Graduate Students

A number of categories of admission to the Wichita State University Graduate School are available. Students seeking a graduate degree must have at least a baccalaureate degree from an accredited institution based on credits comparable to those allowed toward a degree by Wichita State, a minimum grade point average of 2.75 (on a 4.00 scale) in their last 60 hours of academic work and similar performance in their major field work, and no more than 9 hours of background deficiencies in the major field of study. Individual departments and programs may require higher admission standards and additional supporting information. Students desiring to take work for graduate credit but not necessarily desiring to pursue a graduate degree may apply for admission in several nondegree categories depending upon their previous academic performance and goals. Specific requirements for all admission categories and for all programs are listed in the Wichita State University Graduate School Bulletin.

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

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

Complete information about graduate programs and requirements is available in the Graduate School office, 107 Jardine Hall.

Special Admissions

Students who have accumulated a grade point average of less than 2.00 may petition the dean of their college and the University Committee on Admissions and Exceptions to be admitted to a degree program with no college credit and no grade point average.
To qualify, petitioners must be at least 25 years old, must have been out of a degree program of college studies for at least four years and must feel prepared to progress in college work.

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

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

NONDEGREE-BOUND STUDENTS

Guest Students

Students attending another college or university who wish to attend Wichita State on a temporary basis should submit an application to the Office of Admissions. Guest admission is granted for one term only, and students who plan to continue at Wichita State beyond that time must submit complete credentials. Students from other universities are usually enrolled in the Division of Continuing Education.

Students who attend Wichita State before graduating from high school are also considered guest students. To be considered for admission as a high school guest student, applicants should submit an application and a high school transcript and have their principal or counselor sign the admission application giving them permission to take college courses while still in high school.

Open Admission Students

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

a. If they have graduated from high school and have not attended any school for two years or
b. If they have not graduated from high school and are at least 21 years of age or

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

Students admitted as open admission students will be considered nondegree bound for their first 15 semester hours. In order to pursue work beyond the semester in which the 15th hour is completed, students must apply for admission as degree-bound students in Uni-
versity College or in one of the degree-granting colleges of the University or as regular nondegree students in the Division of Continuing Education.

Continuing Education Students
Wichita State encourages students to pursue lifelong education. Persons wishing to continue their education with no immediate degree plans should apply and send copies of all college transcripts, or high school transcripts if no college has been attended, to the Wichita State Office of Admissions. Students seeking graduate credit should write or call the Graduate School.

RESIDENCE DEFINED
The residence of students entering Wichita State University is determined by acts of the state legislature, and the most recent statement reads as follows:

Persons enrolling in universities and colleges under the state board of regents who, if adults, have not been, or if minors, whose parents have not been, residents of the State of Kansas for one year (12 months) prior to enrollment for any term or session in a college or university are nonresidents for fee purposes. Notwithstanding the foregoing provisions of this section, the state board of regents may adopt rules and regulations authorizing the following to pay an amount equal to resident fees: (1) Employees of the university or college and their dependents, (2) persons in the military stationed in Kansas and their dependents, (3) other classes of persons having special domestic relation circumstances, and (4) persons who have lost their resident status within six months of their enrollment.

The state board of regents shall adopt rules and regulations prescribing criteria or guidelines for determination of residence of students, so long as such criteria or guidelines are not in conflict with the provisions of this act. The state board of regents shall adopt rules and regulations prescribing guidelines for the membership composition and procedure of a residence committee for each college and university under its control.

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 Office of Admissions. Students who disagree with their residency classification are entitled to an appeal, provided they file a written appeal with the registrar within 30 days from enrollment and pay the fees as originally assessed. A standard appeal form is provided by the Registrar’s Office. If notice of the appeal is not given in writing within 30 days, the classification or reclassification by the registrar becomes final.

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.
Academic Information

REGISTRATION

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

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

CLASSIFICATION OF STUDENTS

Students are classified according to the following scheme:

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

MEANING OF COURSE NUMBERS

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

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

Courses numbered 300 to 499 are taught primarily for juniors and seniors. Freshmen and sophomores may also be admitted if they satisfy the course prerequisites given in the *Wichita State University Catalog*. Graduate students may not take these courses for graduate credit.
Courses numbered 500 to 699 are aimed primarily at juniors and seniors, but graduate students may also receive graduate credit for these courses.

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

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

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

**CREDIT/NO CREDIT COURSES**

Courses numbered below 100 do not carry credit toward a Wichita State University 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. Grades in such courses are excluded from the grade point average.

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

If students withdraw from a Cr/NCr course before the end of the tenth week of the semester (or the fifth week of the eight-week Summer Session), a grade of W is recorded. If they withdraw from such a course after the tenth week of a semester (fifth week of the eight-week Summer Session), they receive a grade of NCr, subject to the right of petition to the University's Committee on Admissions and Exceptions.

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*.

**A/PASS/FAIL OPTION**

Students in good standing with at least one semester (not a Summer Session) of completed course credit and an overall grade point average of at least 2.50 may elect to enroll under the A/Pass/Fail (A/P/F) option in a total of three regularly graded courses outside their major or supporting minor area.

Under the A/P/F system, an A is awarded for A work; P (pass) is awarded for letter grades B, C and D; and F is assigned for failing work. There is no distinction between an F assigned to an A/P/F course and an F assigned to a regularly graded course. No credit points are assigned for the grade of P; the grade point average is based only on the grades A, B, C, D and F.
Students desiring the A/P/F option for a course must declare the option and obtain approval from their dean on or before the end of the second week of classes of the semester (first week of classes of the eight-week Summer Session). Students withdrawing from an A/P/F course before the end of the tenth week of the semester (or the fifth week of the eight-week Summer Session) receive a grade of W. Students withdrawing from such a course after the end of the tenth week (fifth week of the eight-week Summer Session) receive a grade of F, subject to the right of petition to the University’s Committee on Admissions and Exceptions. If students withdraw from an A/P/F course, the course will still count as one of the three allowable A/P/F option courses.

A course being repeated may not be taken under the A/P/F option and must be taken for a letter grade.

TRANSFER OF CREDITS WITHIN THE UNIVERSITY

**From University College.** Students are normally expected to transfer from University College to one of the six undergraduate degree-granting colleges at the end of the semester in which they earn their 24th credit hour. Students who have declared a major and whose grade point average after 24 semester hours meets the requirements of the degree-granting college of their major are automatically transferred to that college. Students who at the end of their 24th semester hour have not decided on a major or whose grade point average does not satisfy the entrance requirements of the college of their major are given formal notice and must undergo academic review by University College.

Students may not continue in University College after the semester in which they earn their 48th semester hour of credit unless they petition for an exception. The exception must be granted by both the University College Exceptions Committee and the University’s Committee on Admissions and Exceptions.

Students may not be retained in University College after the semester in which they earn their 60th semester hour of credit.

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

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

Reexaminations shall not be given. Grades received on a regular quiz or examination are final.

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

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

Students who miss an assigned examination should arrange with their instructor to take a make-up examination. Deans of the college will serve as arbitrator 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, P, F, W, Au, Cr, NCr, S, U, I, R and CrE.

A  Distinguished achievement. Credit given; four credit points per semester hour.
B  Superior achievement. Credit given; three credit points per semester hour.
C  Average achievement. Credit given; two credit points per semester hour.
D  Below average achievement. Credit given; one credit point per semester hour.
P  Passing work (with a B, C or D). Credit given; no credit points assigned.
F  Failing work. No credit hours earned toward graduation; zero credit points per semester hour. Counted as a course attempted and completed and included in computation of grade point average.
W  Withdrawal from course. No credit given; no credit points. Does not affect grade point average but counts as an attempt in repeat policy.
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). Used only for workshops carrying a 750 course number. Credit given; no credit points assigned.

U Unsatisfactory (D or F). Used only for workshops carrying a 750 course number. No credit given; no credit points assigned.

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

The following conditions govern incompletes:

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

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

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

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

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

1. The symbol $R$ is prefixed to grades issued for all repeated courses and to courses previously taken for audit.

2. 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.

3. Any previously completed course may be repeated. In the computation of the grade point average the grades students receive in repeated courses will replace previous grades up to a maximum total of five such repeats beginning on June 1, 1976. Only two of these five repeats can be used on any one course, since a single course may be repeated more than twice. The grade $W$ does not replace the previous grade, and it does not count as one of these five repeats. Repeating a course that has been previously graded as Cr, NCr, W or AU does not count as one of the five repeats. Beginning with the sixth repeat, all grades are included in the computation of the grade point average except for the grades that have been previously replaced. The semester in which students complete the fifth repeat may include additional repeats. In this case, the repeats (within the total of five) are selected so that the grade point average is maximized.

Transfer students are also eligible to repeat courses and replace the previous grades five times, beginning with the first repeat course taken at any college or university after June 1, 1976.

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

5. 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, P, 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 officially enrolled 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, P, F, W, Cr, NCr, S, U and I, but exclude Au and CrE.

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

Credit Hours Earned. Credit hours earned means that credit is given (A, B, C, D, P, 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 may also be initiated by the chairperson of the department that offered the course if, and only if, the instructor is not in residence. The approval of the dean of the college of the department concerned is needed to have the change in grade entered on the student’s transcript. The dean must then notify the chairperson of the department concerned that the grade has been changed.

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

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

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

TRANSITION SEMESTER

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

When students receive their graded reports (A, B, C, D or F), they may request 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. (No grade point average is computed.) They may also elect to take no action and have the letter grades recorded on their official records. (Grade point average is computed.)

The decision to have letter grades translated into Cr/NCr must be declared by a student and approved by the dean of the college in which the student is enrolled between the posting of the semester grades and one day before the beginning of the University’s next enrollment period, including Summer Session, whether or not the student enrolls.

Students who request that their semester grades be changed to Cr/NCr under the policies governing the transition semester and who had a grade point average of less than 2.00 for that semester will not be placed on probation but will be limited to an enrollment of 12 semester hours (or a proportional enrollment during a Summer Session) or less during their next enrollment.

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. 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 5 to a low of 1, are sent to the college or university chosen by the student. Credit by AP examination is awarded at Wichita State in the areas of biology, 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 Testing Center.

2. Credit may be earned by examination through the College Board's College-Level Examination Program (CLEP). CLEP examinations are administered through the Wichita State Testing Center. Students who pass CLEP examinations with 65th percentile scores or better will be given three hours of credit in the respective general education area for which the test is presented. Information about the dates and times at which CLEP examinations are given is available from the Testing Center.

3. Credit for certain specified general education courses may be earned through examinations administered by the Wichita State Testing Center. Information concerning the specific courses for which these tests are available and the standards applied in granting credit are available from the Testing Center.

4. Credit may be earned by departmental examination. In general, students may also earn credit by examination for any course not covered in the areas given above. Students should apply directly to the chairperson of the department offering the course and register with the 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 Testing Center.

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

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

Students who have completed a minimum of 12 hours at Wichita State and have a cumulative grade point average of at least 3.25 and a grade point average of at least 3.00 the previous semester may be granted several privileges.

1. They are exempt from regulations governing the maximum number of hours allowed students during a semester or Summer Session.

2. They are also exempt from college regulations, if any, governing the maximum number of hours students may take during a semester in one department.

3. They 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 baccalaureate degree-granting institutions who have an overall grade point average of 3.00 or above in their major field and in upper division courses and who are within 10 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 must also be admitted to the Graduate School. Application for the Senior Rule is made to the Graduate School and must be approved by a student's major adviser, 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 helps outstanding students enrich and stimulate their college life. The program offers honors sections of regular classes and specially designed courses, each limited to 25 students. It offers seminars, independent study and undergraduate research fellowships. An honors option allows honors students to enroll in certain nonhonors courses and receive honors credit. In addition, it seeks to provide special honors advisers for its students.

General program policies are established by the University's Honors Committee and administered by the honors coordinator, who is administratively accountable to the vice president for academic affairs.

Students may enter the program at any time they and the honors coordinator decide they may profit from such work. Prospective Wichita State students or those already enrolled should contact the honors coordinator for honors program information. Students who have completed 30 semester hours at Wichita State with a grade point
average of 3.25 may enroll in any honors course or section for which they are eligible.

Honors students are expected to demonstrate an interest in the honors program and maintain a grade point average of 3.10 or higher. Students whose average falls below this level can expect to be dropped from the program. In order to continue in the program, students must also complete at least one honors course or honors section of a regular course with every 24 hours of course work they take at Wichita State. If special circumstances indicate that a student should not be dropped from the program, exceptions may be made. No student will be dropped without being given an opportunity to consult with the honors coordinator or the assistant honors coordinator.

Graduating seniors who have completed 15 hours of honors courses and are members in good standing of the honors program will have the words “Graduate of the Honors Program” placed on their transcripts.

**INDEPENDENT STUDY LEADING TO A DEGREE WITH DEPARTMENTAL HONORS**

Outstanding students may enroll in their junior or senior years in independent study, which leads to a degree with departmental honors if the work is satisfactorily completed. Students with junior standing and a cumulative grade point average of 3.10 are eligible to conduct a project in their major area of study. Students considering such projects are encouraged to begin planning their work well in advance of the semester during which the work is to be done. In order to enroll, students must consult with the honors coordinator and obtain the approval of the instructor in their major department who will be their adviser. Applications must then be approved by the chairperson of the student’s major department and by the dean of the student’s college. The completed application must be filed with the honors coordinator no later than the close of the preregistration period for the student’s last semester at Wichita State or the semester during which the student desires credit for the work, whichever comes earlier.

An independent study project should consist of original research or creative work. To be graduated with departmental honors, students must complete their independent study project and write up the results according to specifications established by the honors coordinator. Students must be examined on their project and other aspects of their major field of study. A three-member faculty committee, appointed by the honors coordinator in consultation with a student’s instructor, conducts the examination and determines the student’s eligibility for graduation with departmental honors. Students failing to secure such a degree either because of failure to complete their projects or failure in the examination will receive academic credit toward the regular degree for the credit hours completed, with the grade determined by the instructor under whom the work was performed. In no case may any student receive more than 6 hours of credit for independent study.
EMORY LINDQUIST HONORS PROGRAM COURSES

The following courses are designed for use by students in the Emory Lindquist Honors Program. The precise content of each of these courses for a given semester is approved by the Honors Committee, and a student may not take a course more than twice and receive academic credit toward a degree for it.

**Lower Division Courses**

101. Special Studies in Humanities and the Fine Arts. (1-4). P 11 101 0 4905


103. Special Studies in Natural Sciences and Mathematics. (1-4). P 11 103 0 1599

104. Special Studies in Professional Studies. (1-4). P 11 104 0 2201

201. Proseminar in Humanities and the Fine Arts. (1-4). P 11 201 5 4905


203. Proseminar in Natural Sciences and Mathematics. (1-4). P 11 203 5 1599

204. Proseminar in Professional Studies. (1-4). P 11 204 5 2201

**Upper Division Courses**

301. Colloquium in Humanities and the Fine Arts. (1-4). P 11 301 5 4905


303. Colloquium in Natural Sciences and Mathematics. (1-4). P 11 303 5 1509

304. Colloquium in Professional Studies. (1-4). P 11 304 5 2201

400. Honors Seminar. (1-4). P 11 400 5 4906

410. Independent Study. (1-4). Repeatable to a maximum of 6 hours of credit. P 11 410 4 4906

**ACADEMIC RECOGNITION**

Honors criteria are established for Wichita State students by the University and apply equally to students of all colleges.

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 3.25 or higher for a semester.

Degrees are conferred with distinction upon students who have shown excellence in scholarship. The minimum standard for graduation *summa cum laude* is both an overall grade point average of 3.90 and a grade point average of 3.90 on Wichita State course work. The minimum standard for graduation *magna cum laude* is both an overall grade point average of 3.55 and a grade point average of 3.55 on Wichita State course work. The minimum standard for graduation *cum laude* is both an overall grade point average of 3.25 and a grade point average of 3.25 on Wichita State course work.

Students enrolling in Independent Study and meeting the appropriate requirements may graduate with departmental honors as described in the Independent Study section of the Catalog.
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 the University’s Committee on Admissions and Exceptions approves their petition. (The alternative to a W is an F.)

When students wish to withdraw, they must consult an adviser, obtain drop slip(s) for every course (line number) and have their adviser sign in the appropriate place. They must then take the drop slip(s) to the instructor of each dropped course and obtain the instructor’s signature. After receiving the instructor’s signature for each dropped course, students must take the drop slip(s) and their certificate of registration to the office of the dean of the appropriate college for the dean’s signature and final approval. The completed drop slip(s) and certificate of registration must then be taken to the enrollment 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 appropriate 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 for the following reasons.

1. The student’s class attendance is so irregular that in the instructor’s opinion full benefit cannot be derived from the course.
2. The student has consecutive unexcused absences for two weeks or more.
3. The student fails to withdraw from one or more classes by the official procedure given in the Wichita State University Catalog.
4. The student fails to make complete withdrawal from the University by the official procedure given in the Wichita State University Catalog.
5. A University College student fails to be accepted by a baccalaureate college before the completion of 60 credit hours.
6. The student’s behavior is prejudicial to Wichita State.

Students are notified by their dean’s office that they may be withdrawn administratively before final action is taken so that they may explain their position. If official notices from the dean’s office are ignored or returned because the address given by a student at the time
of enrollment is incorrect, administrative withdrawal will take place. A grade of W or F will be officially recorded on a 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 adviser as an indication that their grades need to be improved. Students should meet with their instructor and/or college adviser to discuss the problem.

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

Informal Warning. Students with an overall grade point average above the level required by their college for graduation (or above 2.00 for University College and the Division of Continuing Education) 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 and Division of Continuing Education sections of the Catalog. Students should consult the appropriate section of the Catalog for these standards.

Since 2.00 (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 grade point average falls below 2.00, 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 overall grade point average falls below the college’s specified level.

Students admitted in good standing will not be placed on probation regardless of their grade point average until they have attempted 12 credit hours after admission to Wichita State. Attempted hours are defined as all hours appearing on the transcript with a grade of A, B, C, D, F, P, W, Cr, NCr, I, S or U. 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 at Wichita State with a 2.00 average before probation may be removed. In addition, for transfer students, the Wichita State probation standards apply to both their Wichita State grade point average and their overall grade point average.

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

Dismissal standards are set by the various colleges and the Division of Continuing Education of Wichita State in conformance with the following policy. Students will not be dismissed if either their overall 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 overall 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 overall 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.

COURT OF STUDENT ACADEMIC APPEALS

The faculty at Wichita State has established a procedure to resolve disputes arising out of the classroom through the Court of Student Academic Appeals. The court hears appeals from students who feel they have been treated unfairly in grading or in an instructor’s charges of plagiarism, cheating and similar offenses. The court is designed to help resolve differences that cannot be settled in the framework of the student-faculty relationship and offers an important safeguard for students.

Any student may use the appeal procedure. Forms are available in the Division of Student Affairs, 101 Morrison Hall. The general procedure is explained to students when they pick up the form.

REQUIREMENTS FOR GRADUATION

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

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

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

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

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.

At least 30 semester hours of course credit (A, B, C, D, P or Cr) must
be earned at Wichita State. Also, at least 24 of the last 30 semester
hours or 50 of the last 60 semester hours must be completed at Wichita
State. 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 baccalaureate
degree, and no more than 6 hours of such credit may be among the last
30 semester hours.

General Education Program

New students, with no previous college credit, who entered Wichita
State during or after the fall semester, 1974, must fulfill the require­
ments of the General Education Program, which consists of 41 hours.

Students transferring to Wichita State under the Transfer and Artic­
ulation Agreement of the Kansas Public Community Colleges and
State Universities are considered to have met the requirements of the
Wichita State General Education Program. Community college gradu­
ates not covered by the agreement are required to take up to 8 hours of
General Studies courses, depending upon the number of hours needed
to complete the 41-hour General Education Program requirement.

The requirements of the General Education Program are listed
below.

I. Communications (9 hours)
1. Eng. 101 and 102
2. Either Speech 111 or 112

Students with deficiencies in reading or writing skills may be re­
quired to take background work in refresher courses.

II. General Education Distribution Requirements (32 hours)
1. Departments and programs in the University have been assigned
to one of four divisions. Students must take courses in all four divi­
sions as described below:

   a. Humanities and Fine Arts (excluding performance and studio
courses)—American studies, art history, English, dance, German/Rus­
sian, history, linguistics, musicology-composition, philosophy, reli­
gion, romance languages, speech, women’s studies
b. Social and Behavioral Sciences—anthropology, economics, geography, minority studies, political science, psychology, sociology

c. Natural Sciences and Mathematics—biology, chemistry, geology, mathematics, physics, statistics

d. Professional Studies (including performance and studio courses)—accounting, administration (business), administration of justice, aeronautical engineering, aerospace studies, art education, business education, computer science, cytotechnology, dental hygiene, electrical engineering, engineering core, engineering technology, gerontology, graphic design, health care administration, industrial education, industrial engineering, instructional services (education), journalism, library science, logopedics, mechanical engineering, medical record administration, medical technology, military science, military service, music education, music performance (and applied music), nurse clinician, nursing, personal development, personnel services (education), physical education, physical therapy, physician’s assistant, public administration (political science), radio-TV (speech), respiratory therapy, social work, studio arts, theater (speech), urban studies.

2. Rules for the 32-hour distribution requirement are:
   a. None of the general education distribution hours may be taken within the student’s major department.
   b. A minimum of 6 hours must be selected from each division.
   c. Courses must be taken in at least two departments in each division.
   d. The 8 hours remaining after the distribution just specified may be taken in any division(s) except the division containing the student’s major.
   e. At least 8 of the 32 distribution hours must be in General Studies courses, described in the next section.

General Studies Courses

Courses carrying the General Studies designation have been designed to provide students with the knowledge necessary to develop an informed understanding of an area outside their own field of specialization. The courses attempt to provide students with information and concepts that promote awareness of both the achievements and the limits of knowledge in a given area.

The following courses have been approved as General Studies courses. Students should consult the Wichita State University Schedule of Courses each semester for the current list of courses that have been approved and are being offered. Complete course descriptions can be found in the appropriate departmental listings in the Catalog.

Division A, Humanities and Fine Arts
Amer. Stud. 201G, The American Hero
Art Hist. 121G, Survey of Western Art: Paleolithic through Early Christian
Art Hist. 122G, Survey of Western Art: Renaissance and Baroque
Eng. 230G, Exploring Literature
Eng. 231G, Exploring Literature in Media
Eng. 400G, The Literary Imagination: Epic, Romance, Tragedy, Comedy
Ger. 110G, Learning Another Language
Hist. 108G, A History of Lost Civilizations
Hist. 125G, The City of Man
Ling. 150G, The Nature of Language
Mus.-Comp. 160G, The Heritage of Western Music
Mus.-Comp. 493G, American Music
Phil. 100G, The Meaning of Philosophy
Phil. 300G, Science and the Modern World
Rel. 120G, The Biblical Heritage
Rel. 131G, Traditional Religion and the Modern World
Speech 143G, The Art of the Theater
Speech 190G, Crises in Communication
Division B, Social and Behavioral Sciences
Anthro. 100G, Anthropology of Modern Life
Anthro. 126G, Popular Archaeology
Econ. 200G, What Economics Is All About
Pol. Sci. 103G, Games Nations Play: Problems in International Relations
Soc. 200G, Sociology and Everyday Life
Division C, Natural Sciences and Mathematics
Biol. 100G, Principles of Biology
Biol. 102G, Biological Science Survey
Biol. 509G, Foundations of Human Heredity
Geol. 300G, Energy, Resources and Environment
Math. 100G, The Evolution of Mathematics
Phys. 195G, Introduction to Modern Astronomy
Division D, Professional Studies
Admin. 101G, Introduction to Business
CS 103G, Computers: Their Uses and Abuses
Engr. 300G, Technology and Society

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 may also graduate under the requirements of any subsequent Wichita State University Catalog. They may not, however, be allowed to
graduate under the requirements of a *Wichita State University Catalog* in effect earlier than two years preceding their enrollment at Wichita State.

If 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*.

**A SECOND BACHELOR'S DEGREE FROM WICHITA STATE**

Students with a degree from another institution may be granted a second bachelor's degree from Wichita State University upon completion of 30 hours in residence, provided all Wichita State graduation requirements are met.

A second bachelor's degree may be granted to students with a Wichita State degree upon completion of the college requirements. These requirements will be found in the *Catalog* section dealing with the degree requirements for that college.

**COMMENCEMENT**

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

**Special Academic Areas**

**GRADUATE SCHOOL**

Over 3,500 students at Wichita State are enrolled in the Graduate School. The Graduate School offers programs leading to master's,
specialist and doctoral degrees. Master's programs are offered in ad­
ministration of justice, accounting, aeronautical engineering, anthro­
pology, art, biology, business administration, chemistry, communica­
tions, creative writing, economics, educational administration and
supervision, educational psychology, electrical engineering, element­
ary education, engineering management science, English, geology,
gerontology, history, liberal studies, logopedics, mathematics, me­
chanical engineering, music, nursing, physical education, physics,
political science, psychology, secondary education, sociology, Span­
ish, student personnel and guidance, and urban affairs. The Specialist
in Education, a degree beyond the master's level, is awarded in
educational administration and supervision and student personnel and
guidance. PhD programs are offered in logopedics and engineering. A
transfer arrangement with the University of Kansas allows substantial
parts of doctoral programs in educational administration and supervi­
sion to be completed at Wichita State.

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

SUMMER SESSION

Wichita State's Summer Session features a flexible time format. In
addition to the regular eight-week session, there is a three-week pre­
session and two four-week sessions, concurrent with the regular ses­
session. Evening classes are offered during the eight-week session. Dates
for the various sessions are announced in the Summer Session Sched­
ule of Courses.

All colleges and divisions of the University function during the
Summer Session. Credit toward both undergraduate and graduate
degrees may be earned during the summer. Over 200 faculty teach over
450 regular and short courses, and 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 belong­
ing to the associations that accredit the University.

For information regarding dates of enrollment, fees, course offerings
and the availability of cultural and recreational opportunities, please
write to:
Director of the Summer Session
Wichita State University
Wichita, KS 67208
The Summer Session office is located in 103 Jardine Hall.

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 prior to the eight-week and first four-week sessions. Separate registrations are also held for each of the short sessions. Detailed information on registration is available in the *Summer Session Schedule of Courses*, available in April.

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 are offered throughout the summer. These courses, which are devoted to special current topics, carry the course number 150 or 750. Specific topics are not given in the *Catalog*, but a list of the workshops being offered each summer is included in the *Summer Session Schedule of Courses*. Special fees are charged for workshops. (See the Financial Information section of the *Catalog*.)

*Alpha Ten.* Alpha Ten is a special summer program for entering freshmen who want to improve their academic skills in reading and writing and at the same time earn their first 10 hours of college credit. Students admitted to the program take an integrated set of courses in composition, speech, and reading and writing improvement as a group. Special academic counseling is also provided for the students to assist them in beginning their college careers. For more information, contact the director of the Learning Resource Center at Wichita State.

*High School Students.* High school students between their junior and senior years may enroll as guest students for college credit in many WSU classes. Interested students should contact the director of admissions at Wichita State.

*Spanish Program in Puebla, Mexico.* The romance languages department offers a program designed to broaden students’ comprehension of the language, customs, history and culture of Mexico. Students live in the Hotel Colonial in Puebla for three weeks and in private homes for three weeks. Since all classes are taught in Spanish, only students and teachers who have had a minimum of two years of college Spanish or the equivalent are eligible to attend. 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 Romance Languages, 305 Jardine Hall.

*Field Geology.* Wichita State, Kansas State and Fort Hays State University present a joint summer field course in geology. The base camp is Buelah, Colorado, on the east flank of the Wet Mountains. The summer course consists of five weeks in the field, for which students receive 6 hours of credit.

Applicants should have completed course work in physical and historical geology and at least 12 hours of advanced geology. Inquiries should be directed to the Department of Geology, 228 McKinley Hall.
Financial Information

COMPREHENSIVE FEE SCHEDULE

Fees given in this Catalog are current at the time of printing and may be changed by the Kansas Board of Regents or the Kansas Legislature.

Basic Fees

Basic fees for regular enrollment and continuing education credit courses are:

<table>
<thead>
<tr>
<th></th>
<th>Resident</th>
<th>Nonresident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition fee—regular semester and Summer Session</td>
<td>$17.00</td>
<td>$50.00</td>
</tr>
<tr>
<td>1 through 14 hours—per credit hour</td>
<td>$17.00</td>
<td>$50.00</td>
</tr>
<tr>
<td>15 hours and above—flat fee</td>
<td>255.00</td>
<td>750.00</td>
</tr>
<tr>
<td>Student fee—regular semester and Summer Session</td>
<td>$7.40</td>
<td>$7.40</td>
</tr>
<tr>
<td>1 through 14 hours—per credit hour</td>
<td>$7.40</td>
<td>$7.40</td>
</tr>
<tr>
<td>15 hours and above—flat fee</td>
<td>111.00</td>
<td>111.00</td>
</tr>
<tr>
<td>Total required fees, based on 15 credit hours for regular semester</td>
<td>$366.00</td>
<td>$861.00</td>
</tr>
</tbody>
</table>

The student fee, required of all students enrolled on the Wichita State campus, supports parking, student union, stadium addition, academic and service buildings, and library revenue bonds; student health services; athletic admissions; forensics; Student Government Association; University Forum Board; student publications; and concerts, drama, opera productions and similar items.

Off-Campus Credit and Noncredit Courses and Workshop Fees

A specific course fee of $18.00 (undergraduate) or $27.00 (graduate) per credit hour is assessed for off-campus courses and workshops. Fees for noncredit courses are based on actual operating costs.

Workshop Fees—On Campus

A workshop fee of $30.10 per credit hour, including $23.00 for tuition and $7.10 for student fee, is assessed. Fees for noncredit workshops are based on actual operating costs.
Auditing Course Fees

Students pay the same tuition and fees per semester hour for audited courses as for credit courses. Tuition and fees for noncredit courses are the same as for credit courses unless otherwise specified.

Departmental Fees

Special departmental fees are charged as summarized below:

1. Administration of justice (AJ 340, 343, 344, 345, 804, 821) — $10.00 per course
2. History (Hist. 105, 106 and 599) — $5.00 per course
3. Military science — $3.50 per semester
4. Music — During the academic school year undergraduates enrolled in 6 or more hours are not charged tuition and fees for the following ensembles:
   - Orchestra, Mus. Perf. 211A, 411A, 711A
   - Symphonic Band, Mus. Perf. 211B, 411B, 711B
   - Concert Band, Mus. Perf. 211B, 411B, 711B
   - A Capella Choir, Mus. Perf. 211F, 411F, 711F
   - University Singers, Mus. Perf. 211F, 411F, 711F
   - Jazz Arts Ensemble, Mus. Perf. 211T, 411T, 711T
   - Football Band, Mus. Perf. 211M, 411M, 711M

   Students enrolled in fewer than 6 hours are charged regular tuition and student fees for these ensembles. Tuition and fees, however, are not charged to graduate students enrolled in these courses.

   During Summer Session tuition and fees for these ensembles are not charged to undergraduate or graduate students enrolled for 2 or more credit hours in courses other than the ensembles.

5. Applied music — Students enrolled in applied music are assessed an instrument and equipment special services fee of $5.00 per semester or Summer Session.

6. Physical education — horsemanship class — $70.00 per semester.
7. Physical education — ski instruction — $70.00 per semester.
8. Physical education — bowling — $14.00 per semester.

Laboratory Fees

Fees are assessed to cover the cost of supplies and breakage. Additional fees are assessed where breakage is excessive.

<table>
<thead>
<tr>
<th>Type of Laboratory</th>
<th>Fee per Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology (Anthro. 204 and 501)</td>
<td>$10.00</td>
</tr>
<tr>
<td>Biology</td>
<td>10.00</td>
</tr>
<tr>
<td>Ceramics</td>
<td>20.00</td>
</tr>
<tr>
<td>Chemistry</td>
<td>10.00</td>
</tr>
<tr>
<td>Geography</td>
<td>10.00</td>
</tr>
<tr>
<td>Geology</td>
<td>10.00</td>
</tr>
<tr>
<td>Graphic Design, GD 139, 231</td>
<td>5.00</td>
</tr>
<tr>
<td>Graphic Design, GD 230, 330</td>
<td>10.00</td>
</tr>
</tbody>
</table>
Special Fees, Deposits and Waivers

Certain other fees are assessed as indicated below:

Identification card fee ........................................... $ 2.50
New student orientation fee ........................................ 10.00
Transcript per copy charge ......................................... 1.00
Teacher placement fee
   Students ....................................................................... 2.00
   Alumni ......................................................................... 5.00

College of Health Related Professions
   College of Health Related Professions
      equivalency examination fee, per credit hour ................ 7.00
   Physician’s assistant application fee .............................. 15.00
   Dental hygiene registration fee (due after
      acceptance and not applied toward tuition) ............... 50.00
   Physical therapy deposit (nonrefundable but
      applied to tuition if enrolled) ................................. 50.00

Testing and Credit by Examination Fees

Experiential learning assessment fee ................................. $25.00
Departmental examination fee, per credit hour .................... 8.00
ACT tests
   ACT residual testing fee* ........................................... 9.00
   ACT national testing fee † .......................................... 7.50
CLEP general and/or subject tests
   CLEP general residual testing fee, for one test ‡ .............. 20.00
   CLEP national testing fee, per test ............................... 20.00

* Scores are sent to Wichita State University only.
† Scores are reported to student-designated colleges, universities and approved agencies by ACT, Iowa City, Iowa.
‡ CLEP general exam residual testing fees are $30 for one test, $30 for two tests, $40 for three, four or five tests.
   CLEP subject exams are not administered residually.

Contracts and Compensatory Charges

The schedule of fees reported here does not limit the charges that may
be made under arrangements with other governmental or private
agencies. However, arrangements with other agencies may not provide
for charges below those stated here. Compensatory or other charges to
help cover actual costs of instruction are specifically authorized.

Drop Fee—Partial Withdrawal

Preregistered students may drop courses during registration without
charge. After registration and before the end of the second week of
classes (first week in Summer Session), students may receive a full
refund of tuition and fees minus a refund penalty of $10.00 for each
drop transaction. No refunds are made on partial withdrawals after the
second week of classes (after the first week of classes in Summer
Session). When an approved change of schedule involves both the dropping and adding of courses, the fees already paid for the dropped courses apply to the fees for the courses being added. A $10.00 drop penalty is assessed for each drop-add transaction.

No penalty fee is assessed for only adding courses.

When students must change their schedules because of University regulations, clerical errors, incorrect advising or changes made in the class schedule by the University, the dean of a student’s college may waive the $10.00 refund penalty.

All changes in enrollment become effective on the day an add or drop card is received in the enrollment office.

Refund Policy—Complete Withdrawal

Students withdrawing from all classes during the first two weeks of a semester (first week in the eight-week Summer Session) are entitled to a 90 percent refund of tuition and fees. Students making a complete withdrawal during the third, fourth and fifth weeks of a semester (second week in the eight-week Summer Session) are entitled to a 50 percent refund of tuition and fees. No refund is made to students who withdraw after the fifth week (second week in the eight-week Summer Session).

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.

Special Fees and Refunds

Prior to each semester, the dean of Admissions and Records establishes enrollment dates. Late registration is a special service resulting in extra costs for special staff and facilities. Students who register late are assessed late registration fees as published in the Schedule of Courses.

Students who drop courses are assessed one transaction fee for all courses dropped at the same time. This fee recognizes that in many instances students have occupied space in class which was not available to other students and for the extra cost of staff and facilities to handle the transaction. The amount of the fee is published in the Schedule of Courses.

Refunds of tuition fees will be granted for withdrawals in accordance with dates and regulations published in the Schedule of Courses for the semester.

Fee Waiver Policy

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

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

Period of Payment

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

Late Enrollment

Students who enroll late are assessed the following fee:

Enrolled in 1 through 6 hours ................................ $ 5.00
Enrolled in 7 or more hours .................................. 15.00

At the beginning of each semester, the dean of admissions and records establishes the specific date for the assessment of the late enrollment fee. Waiver of the late enrollment fee may be granted either by the dean of admissions and records or the dean of the student’s college.

Unpaid Fees

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

Assessment and Collection

The University’s controller assesses and collects the fees. The controller, the dean of the College of Fine Arts and a faculty member from the College of Business Administration constitute the Board of Appeals for students who believe their fees have been incorrectly assessed. The decision of this committee is final.

STUDENT HOUSING FEES

Cost for the double occupancy, single payment plan at Brennan Halls is $1,375 for the 15-meal plan and $1,475 for the 19-meal plan.
Installment payments add $20 to each total. Rates include the social fee, room telephone and a nonrefundable $25 application fee.

The double occupancy, single payment plan at Fairmount Towers is $1,475 for the 15-meal plan and $1,575 for the 19-meal plan. Single occupancy, single payment at Fairmount Towers is $1,875 for the 15-meal plan and $1,975 for the 19-meal plan. Installment payments add $20 to each total. Rates include the social fee and a nonrefundable $25 application fee.

Summer Session rates at Fairmount Towers are $400 for the double occupancy, 15-meal plan, and $500 for the single occupancy, 15-meal plan. The total includes a nonrefundable $25 application fee.

These rates are current at the time of printing. Fees may be changed by the Kansas Board of Regents.

FINANCIAL AIDS

Wichita State offers financial assistance through scholarships, employment and federally supported programs. Students interested in any type of financial assistance should contact the University’s Office of Financial Aids, 101 Morrison Hall, to see what aid is available for their specific needs. Most financial aid is based on family need, but some scholarships are awarded without consideration of financial need.

Scholarships. The Board of Trustees of the University, in cooperation with the Kansas Board of Regents, administers a large number of scholarships and loans coming from endowed property and funds of the University. Over 200 such scholarships and loans are available.

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

Federal Grants and Loans. Students may receive aid through several federal programs, including the Supplemental Educational Opportunity Grants Program, Basic Educational Opportunity Grants Program, National Direct Student Loans Fund, Federal Guaranteed Loan Program and the Higher Educational Assistance Foundation Loan Program. Students interested in law enforcement or nursing may also take advantage of two other federal programs, the Law Enforcement Education Program (LEEP) and the Nursing Scholarship and Loans Programs.
Student Affairs

The Division of Student Affairs assists students in every phase of University life. Whether students are involved in making plans for the future, solving individual problems, identifying educational goals, finding financial assistance, securing employment or facing a number of other problems or issues, they are encouraged to use resources offered through the Division of Student Affairs.

STRUCTURE

The Division of Student Affairs is comprised of University College, Student Life Services, Project TOGETHER, Project Discovery and Wichita Prep. The vice president for student affairs and dean of students is responsible for the coordination and supervision of the Division of Student Affairs. He is directly responsible to the University’s president and in his position encourages communication concerning student life, problems and activities between the division and students, faculty and department heads at Wichita State.

The assistant vice president for student affairs also is the dean of University College. He is responsible for the programs and policies of University College, which administers to the academic and orientation needs of freshmen. (See University College section of the Catalog.)

The dean of student life and services is responsible for the residence halls, off-campus housing concerns, fraternities and sororities, social organizations, preschool, veterans, evening/nontraditional students, women’s activities, financial aids, placement, student health, student activities, counseling students with problems or concerns, and encouraging scholastic achievement.
Project TOGETHER is directed by the assistant dean of students. It is a federally funded program providing comprehensive, intensive, flexible tutorial help; personal counseling; career guidance; and assistance in the development of study skills for disadvantaged students.

Project Discovery, a federally funded talent search program, was established at Wichita State University in July of 1977. The project assists approximately 1,750 low-income youngsters between the ages of 14 and 27 in gaining admission to postsecondary institutions throughout the nation.

The project has a staff of twelve, including seven counselors, who assist youngsters in selecting educational and career opportunities. Specific help is provided with admission forms, financial forms and registration for ACT/SAT assessment examinations.

The project maintains two offices—one at Wichita State and the other at Coffeyville Community College, serving the high schools and community agencies in Wichita and twelve counties in southeast Kansas.

Wichita Prep is a preparatory program designed to generate the skills and motivation necessary for success in education beyond high school among young people from low-income backgrounds who have academic potential but have inadequate secondary school preparation.

The program experience involves a curriculum designed to develop creative thinking, effective expression and positive attitudes toward learning needed for educational success. The intent and commitment of Wichita Prep is to create a climate for students to become re-excited about learning and to provide a variety of channels for expression.

The Wichita State University Wichita Prep program involves the cooperation of the eight Wichita high schools; it is made up of fifty students, three full-time and eleven part-time staff. Parents and members of the community share in forming the program's objectives, goals and support.

The College-Level Examination Program (CLEP), Proficiency Examination Program (PEP), as well as many departmental examinations, are administered by the center as part of the University's credit-by-examination program. Special tests measuring individual interests, abilities and personality attributes are administered upon recommendation of a University counselor in the Counseling Center or in University College.

ORIENTATION

Special orientation programs are presented in the summer through small-group interaction and discussions. Sessions led by trained student leaders acquaint new students with Wichita State college life, faculty and other new students. Personal goals, objectives and expectations are discussed during these summer programs. For more details about the orientation program, see the University College section of the Catalog.
COUNSELING

Professional counseling is available through the Counseling Center. It is provided on a voluntary basis for students seeking such services. Areas specifically served include emotional and adjustment difficulties, vocational and professional planning, marital counseling and educational counseling.

TESTING CENTER

The University Testing Center provides several key services which support the academic programs offered by Wichita State University. The center administers and scores tests which are required for admission to, and placement in, various academic programs. In addition, it carries out research studies requested by various colleges and departments of the University.

A scoring service is available to those faculty who are able to use machine-scorable exams in their classrooms. The Center also develops various computer programs for data processing, which are accessible to WSU computer users.

A library of educational and psychological test materials is located in the testing office, Room 125, McKinley Hall.

Dates and registration materials for tests given on a national basis and required for admission to most graduate and professional schools may be obtained from the center office.

THE INTERNATIONAL PROGRAM

The International Program, located in the Campus Activities Center, serves the special needs of approximately 300 international students from 40 countries enrolled at Wichita State. (For international student admission requirements, see the Admission to Wichita State section of the Catalog.) In addition, it offers access to coordinated study programs abroad for American students in all areas. The programs include summer, semester and yearly offerings.

The World Student Association, composed of both international and American students, sponsors a full program of cultural and social activities and meets twice a month during the school year. Membership is open to all students and interested Wichita residents.

Information concerning Fulbright-Hays grants may be obtained from the Fulbright program adviser in the International Program office.

PLACEMENT AND CAREER SERVICES

The office of Placement and Career Services provides a variety of employment placement and career services to assist students, graduating students and alumni who are seeking employment or employment-related assistance.
Student placement services include direct referral to part-time, full-time and temporary school-year jobs, as well as summer employment opportunities. Special student placement services such as on-campus interviews for summer training positions and co-op/work internships are also available.

Degree candidate and alumni placement services include direct referral to career employment vacancies; on-campus interviews with visiting local, Kansas and national employer representatives; and matching of jobs and placement candidates through Placement and Career Services Computerized Employment Matching and Notification System.

Occupational and career information, employer directories, information on employment trends, employer recruiting literature, annual salary survey reports, and information on graduate school and professional school opportunities exist at Placement and Career Services and its associated career information library.

Placement and Career Services also places considerable emphasis on career and job counseling services. Persons can, for example, learn about various career fields, how to prepare job resumes and letters of application, how to conduct effective employment interviews, and in addition, can obtain helpful information on job-hunting procedures, strategies and techniques.

**VETERANS AND MILITARY SERVICES**

The Office of Veterans and Military Services devotes itself to, as its name implies, veterans and active duty people. The services span the entire range of veterans benefits and includes services such as: assistance with admissions, housing and jobs, and certification for benefits to the VA, tutorial assistance, financial aid information, work-study for veterans and many other services that veterans and active duty students need.

Wichita State University is designated as a Serviceman’s Opportunity College. It is part of a network of institutions which has recognized the needs of servicemen and women and veterans and has indicated its intention to meet these needs. For more information contact the Dean of Admissions and Records or the Office of Veterans and Military Services.

**HOUSING**

The Wichita State housing policy for 1979-80 classifies housing units into the following two categories:

1. University-approved housing, including University-owned residence halls (Fairmount Towers and Brennan Halls are required for freshmen as long as there is space available in these halls) and fraternity and sorority houses
2. University-registered housing, including apartments, single rooms and houses that are nondiscriminatory on the basis of race, creed or color.

All single freshmen under 21 years of age enrolled for 9 or more credit hours who are not living with relatives or guardians are required to live in University-approved housing, with priority given to University-owned housing.

All other students can select their own accommodations; however, University-approved housing is highly recommended. Listings of registered housing facilities are available in the office of the Division of Student Affairs.

Special exceptions to these regulations will be reviewed by the housing officials in the Division of Student Affairs.

Admission to Wichita State does not mean automatic room reservation. Each student admitted will receive information concerning housing from the Office of Admissions, and the proper forms must be filled in and returned to the Department of Housing to reserve a room.

Requests for information should be sent to:
Director of Housing
Wichita State University
Wichita, KS 67208.

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

UNIVERSITY PRESCHOOL

The University Cooperative Preschool is a licensed school for children of WSU students. Three certified preschool teachers and seven part-time aides supervise the activities, which include art, language, music, science, numbers and literature. The planned program is designed to foster intellectual, physical, emotional and social development. The school is available from 7:30 a.m. to 5:30 p.m. Monday through Friday for children 2½ to 6 years old. Each child may stay for a minimum of two hours per day. The program permits children to attend preschool while their parents are in class and is available to the greater community as well.

NONTRADITIONAL STUDENT SERVICES

Nontraditional Student Services maintains evening and weekend office hours, offering the "after-hours" student a multi-purpose contact point for information, referral, general assistance and follow-up on problems. The office serves as a similar contact point for older adult students who may feel somewhat out of place or intimidated by the college classroom.

Nontraditional Student Services also provides information about community service agencies and houses the WSU Volunteer Center for
students, faculty and area residents interested in campus and community volunteer opportunities.

HANDICAPPED SERVICES

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

- Note-takers, readers, library assistants, wheelchair attendants, test proctors, escorts, interpreters, cafeteria aides, brailled materials, Choice Magazine Listening discs, talking books and magazines, standard typewriters, and typing services are available.

- Students may have the use of the Perkins Braillewriter, IBM Braille typewriters, slates and stylus, resource materials, raised line drawing kits, the Speech Plus Calculator, Braille measuring instruments, folding canes, print magnifiers with flashlight, as well as numerous auxiliary aids and materials.

- Textbooks are ordered through this office for students requesting textbooks on tape or in Braille.

- Braille campus guides and maps as well as Braille shuttle bus schedules are available.

- The Association for Handicapped Students, a campus affiliated group of both handicapped and nonhandicapped individuals, promotes fellowship while exploring issues which affect the postsecondary education of individuals with physical disabilities.

STUDENT HEALTH AND HOSPITALIZATION

Wichita State maintains the Student Health Service through a staff of professional nurses and community physicians. The health service endeavors to provide guidance and education in health matters, to promote good health, to prevent disease and to care for ill and injured students.

All new students, transfer students or students registering after an interruption in their program are encouraged to submit a medical history and physical examination form signed by a licensed physician to the Student Health Service. The appropriate form may be obtained from the Student Health Service.

- Nurses may be seen at the Student Health Service for first aid, treatment for illness or counseling regarding personal health problems. Services of the physicians are available by appointment during scheduled clinic hours as posted in the Student Health Service office. Students may receive immunizations for tetanus, influenza and other diseases, and summaries of medical health records are prepared for students upon request.

- The Wichita State student body has chosen to participate in the Mutual of Omaha group plan for accident and sickness coverage. Opportunities to enroll in the program are offered at the beginning of each regular semester. Information is available at the Student Health Service and the Division of Student Affairs.
Special Programs

CENTER FOR BUSINESS AND ECONOMIC RESEARCH
The Center for Business and Economic Research, a service of the College of Business Administration, engages in economic research for a wide variety of clients in both the private and public sectors. The center gathers, analyzes and publishes data describing economic conditions in Wichita and Kansas and is the sole source of comprehensive monthly economic data for the state. In order to reach several audiences with this information, the center publishes two monthly reports: Kansas Economic Indicators and Business Indicators Report. A quarterly Kansas Economic Indicators (KEI) is also published. The center’s staff includes faculty, graduate students and undergraduate students who work together on policy-oriented research projects and publications.

CENTER FOR CONTINUING HEALTH EDUCATION
The Center for Continuing Health Education, a component of the Division of Continuing Education housed in the College of Health Related Professions, provides continuing educational opportunities for all members of health related professions in Kansas. Through workshops, seminars, and conferences, the center effectively provides all health professionals with current information and developments related to their specific fields.

CENTER FOR HUMAN APPRAISAL
The Center for Human Appraisal operates as a service of the College of Business Administration to extend research attitudes and interests in the behavioral sciences and apply that knowledge to governmental agencies and the business community. Projects undertaken by the center include management surveys, assessment programs, supervisory selection, selection for promotions, morale research, supervisory training and general research on people systems.
CENTER FOR MANAGEMENT DEVELOPMENT
The Center for Management Development, a component of the Division of Continuing Education housed in the College of Business Administration, provides continuing business education, professional development, specialized information and direct assistance in management development for the state's business, industries, and governmental and social agencies.

MARCUS CENTER FOR CONTINUING EDUCATION
The Division of Continuing Education offers a multiplicity of educational services through the Marcus Center for Continuing Education, a modern, adult education facility located at 4201 East 21 Street, adjacent to the University golf course and swimming pool. Specialized courses for business and industry, governmental agencies and the professions, special conferences for the general public, and a wide variety of personal enrichment programs are offered in the center. In addition to renting meeting areas, the Marcus Center staff provides program development, brochure preparation, mailings, fee collection, material preparation and reproduction, registration, and program evaluation.

CENTER FOR URBAN STUDIES
The Center for Urban Studies, an interdisciplinary organization, engages in research for a wide variety of clients in both the public and private sectors, giving special attention to the problems of a changing urban and municipal environment and its effect on local government. Through the investigation, analysis and reporting of urban problems, the Center for Urban Studies offers alternative solutions and probable consequences on political, economic, sociological and cultural problems, as they relate to governmental and public affairs in the urban environment.

A variety of projects has been undertaken by the center including energy consumption surveys, health care research, zoning studies, intergovernmental relations as well as assemblies on taxation, and public forums of the history and growth of American cities. The center's staff works closely with the faculty and graduate students on all projects relating to research and public service.

The Center for Urban Studies is responsible for the administration of the Master of Urban Affairs (MUA) degree program and for the supervision of the MUA assistants and urban interns.

FRENCH STUDENT EXCHANGE PROGRAM
WSU is among the 100 colleges and universities in the United States that participates 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 Romance Languages Department as a salaried assistant in French. Majors and minors in French who have been graduated within one year prior to departure date are eligible to apply.

PROJECT TOGETHER

Project TOGETHER is a program that gives comprehensive, intensive, flexible tutorial help, personal counseling, career guidance and assistance in the development of study skills for disadvantaged students.

PROJECT DISCOVERY (TALENT SEARCH)

Project Discovery is designed to help those between the ages of 14 and 27 to enter a postsecondary institution. It is also designed to provide assistance in completing the necessary application to a postsecondary institution or completing a high school equivalency. Also provided is assistance in financial aid, career planning and counseling.

WICHITA PREP PROGRAM

Wichita Prep is a preparatory program designed to generate the skills and motivation necessary for success in education beyond high school among young people from low-income backgrounds who have academic potential but have inadequate secondary school preparation.

REGENTS PRESS

The Regents Press is operated jointly by three state Kansas universities: the University of Kansas, Kansas State University and Wichita State University.Founded July 1, 1967, it was the first university press in the United States to function on a statewide level under specific sponsorship of all of the state's universities. Offices are located on the campus of the University of Kansas in Room 366 of Watson Library.

RESEARCH AND SPONSORED PROGRAMS

The Office of Research and Sponsored Programs serves as the University liaison with local, state and federal governmental units and organizations that support research, training and other service programs. The office collects, maintains and provides information regarding agency programs and interests in support of research and other activities; coordinates the preparation and submission of project proposals; and is responsible for the general administration and reporting of sponsored grants and contracts.

UNIVERSITY GERONTOLOGY CENTER

The University Gerontology Center is responsible for development and coordination of gerontology-related activities and programming at Wichita State, including research, service and continuing education.
The center develops and manages community research in the area of aging and serves as a resource center and information clearinghouse to assist community agencies and organizations in planning and developing services for older persons. Partially funded by a grant from the Administration on Aging, the center is a member of the Association for Gerontology in Higher Education (AGHE), the Mid-America Congress on Aging (MACA) and the Kansas Association for Aging in Higher Education (KAAHE).

Special Facilities

Instructional facilities on the 320-acre Wichita State University campus are in use for educational purposes more hours per day than at any other Kansas college or university. Among notable campus buildings is the Corbin Education Center, which houses the College of Education. It is one of the last structures designed by the late Frank Lloyd Wright. An 18-hole golf course, tennis courts and playfields are also a part of the campus.

During the past few years more than 300,000 square feet of space has been added to the campus in new buildings. Included are the McKnight Art Center with its Edwin A. Ulrich Museum of Art which maintains a year-round exhibition schedule open to the public, Wallace Hall with laboratories for the College of Engineering and a new classroom-office building for Fairmount College of Liberal Arts and Sciences.

Opening soon will be a new complex for the College of Health Related Professions, and construction is expected to begin on an $8.8 million structure for recreation, physical education and ROTC. This building will provide office space for Women’s Athletics; gymnasiums for basketball, tennis and volleyball; a 200 meter, six-lane track; swimming and diving pools; two dance studios; a gymnastics room; a rifle range; and eight racquetball courts.

The University’s rapid growth during the past decade has also necessitated a review of traffic and parking provisions. A development plan, completed in 1974, proposed a perimeter road system to circle the campus with parking lots on the exterior and academic facilities in the
center. The first portion of the road system was completed in 1976, and the second large section plus the addition of new parking lots is scheduled for completion the summer of 1979 on the southern portion of the campus.

Other special facilities meeting the needs of Wichita State are described on the following pages.

**CAMPUS ACTIVITIES CENTER**

The Campus Activities Center (CAC) is Wichita State's community center for students, faculty, staff, administrators, alumni and guests of the University. The CAC provides recreation areas, lounges, meeting rooms and dining facilities. The University Bookstore sells textbooks, trade books and supplies to meet the daily needs of the campus community. The CAC Activities Council, made up of a representative group of students, plans an extensive and varied program of activities. Another service of the CAC is the central reservations office for the campus. Reservations for the use of all campus facilities (except Henry Levitt Arena and the Shocker Alumni and Faculty Club) are scheduled through this office.

A share of the campus student fee and revenues from food services, recreation facilities and the University Bookstore pay for the CAC building, all CAC operating costs and the activities program. No tax money was used in the construction of the building, and tax money is not used to maintain and operate the center and its programs.

**DIGITAL COMPUTING CENTER**

The Digital Computing Center, located on the first floor of Neff Hall, provides contemporary computing services for instructional use, research projects and administrative data processing at Wichita State. The University's central computing facility includes an IBM System/370 Model 148 with 2 million characters of main storage, over 2.2 billion characters of on-line disk storage and five nine-track magnetic tape drives. The IBM 360/44 will be available for academic and research work through the end of this year.

Batch and remote batch jobs may be submitted on a 24-hour-a-day basis. Output may be picked up from the dispatch window between 7:30 a.m. and 11:00 p.m. Monday through Friday and on weekends and holidays during posted hours. User keypunch facilities are located in Room 113, and scientific programming consulting services and student programming assistance are maintained in Room 109A and Room 120A.

Several computer terminals are available in the computer center terminal room for faculty and student use. Altogether there are over 80 terminals on campus servicing the academic time-sharing system, interactive graphics, computer assisted instruction and the administrative terminal system. Questions regarding adding or interfacing any new equipment should be referred to the director of the computing center.
HARVEY D. GRACE MEMORIAL CHAPEL
Harvey D. Grace Memorial Chapel, located in the heart of the campus near Morrison Hall and the Campus Activities Center, was built in 1963 and dedicated to serve all creeds and races. The chapel is available to all students for group or individual worship and meditation.

HELPERN INTERNATIONAL CENTER
The Milton Helpern International Center for the Forensic Sciences, supported by the Department of Administration of Justice, Fairmount College of Liberal Arts and Sciences and Wichita State University, serves as an information center for scientists interested in solving crimes and trains future scientists in the field of criminal investigation and forensic science. It is located in the Liberal Arts and Sciences Building.

INSTITUTE OF LOGOPEDICS
The Institute of Logopedics is a private, nonprofit, residential and outpatient rehabilitation center located on 40 acres near the Wichita State campus. The institute is the largest residential facility in the world specializing with habilitation and rehabilitation of adults and children with speech, language and hearing disorders. The institute is University-related through its affiliation with the College of Education's Department of Logopedics, which offers academic preparation for Wichita State students desiring to work with communicatively handicapped children and adults. Observation and practicum opportunities are provided at the institute as part of the professional preparation of students in speech and language pathology and audiology.

KMUW—FM RADIO STATION
KMUW—FM radio broadcasts at 89.1 megahertz on the FM radio dial. The 10,000-watt stereo station is one of more than 210 public radio stations that make up the National Public Radio network. In addition to a full-time staff, about 50 students are employed in positions and are involved in the total operation of the radio station. KMUW—FM programming includes live coverage of virtually all major speeches, concerts and other special events held at Wichita State.

LEARNING RESOURCE CENTER
Wichita State offers a variety of services to students through the programs of the Learning Resource Center. Credit and noncredit courses are offered that help students improve their reading, writing and listening skills. Using up-to-date equipment, instructors help
students build their reading comprehension, vocabulary and speed. Instruction is also offered in study skills, listening and notetaking skills, critical reading habits and writing composition. For complete descriptions of the credit and noncredit courses offered at the center, see the University College section of the Catalog.

In addition to formal course work, students may make use of the voluntary writing and math laboratory program offered to students enrolled at Wichita State. Individual instruction is provided on a walk-in basis.

LIBRARY AND MEDIA SERVICES

The University Library provides information resources and services to support course offerings and to foster independent study and research. A comprehensive collection of over 1½ million items has been selected to meet the expanding needs of the students and faculty. In addition to books and periodicals, the library provides microforms, corporate reports, college catalogs, pictures and art reproductions, videotapes, films, slides, records, filmstrips and audio tapes.

The University Library serves as a depository for selected official publications of the United States and the State of Kansas, with the Department of Special Collections housing a rapidly growing manuscript collection of more than 500,000 pieces. Special collections include the papers of William Lloyd Garrison and U. S. congressmen, original editorial cartoons by Pulitzer Prize-winning cartoonists, and material on regional and local history.

An open stack arrangement allows easy access to nearly all of the material in the library collections. Reference librarians are available to help students and faculty identify appropriate sources of information and use the card catalog and other bibliographic facilities.

Facilities in Ablah Library include individual study carrels, electronic carrels equipped with listening and viewing equipment, group study rooms, microform reading equipment, copying services and typewriters.

Since Ablah Library is a member of the Center for Research Libraries, Wichita State students have access to the center's extensive holdings of research material.

The Media Resources Center, located on the lower level of Ablah Library, provides information and consultation regarding the selection, development, production and utilization of media. The center seeks to improve the quality of teaching and learning through the effective utilization of educational technology.

Facilities include a television studio, graphic and photographic production areas and labs, and multi-media and seminar classrooms. Services include production of all forms of graphic and photographic materials, color videotape production, audio and slide/tape program production, and equipment and software utilization assistance.
MINICOMPUTER LABORATORY FACILITY

The electrical engineering department within the College of Engineering has a Hewlett-Packard 2108 minicomputer system for its laboratories. This is a disc-based system with a real-time executive software operating system capable of operating in a foreground-background mode with a 16 terminal multiplexer. Every laboratory within the department has at least 10 coaxial data lines connected to this minicomputer for terminals and/or data collection.

SATELLITE TRACKING STATION

Tracking station facilities are available at Wichita State for faculty and students to use in electrical propagation studies. The station consists of an antennae system of crossed Yagi arrays, together with receiving and recording equipment for decoding video and infra-red information.

SPORTS AND RECREATION

Sports and recreation facilities available to students at Wichita State include a regulation 18-hole golf course and an outdoor swimming pool. The 10,200-seat Henry Levitt Arena is used for intercollegiate basketball games and major entertainment events. Cessna Stadium, a 31,500-seat stadium, is used for football games and track meets. Under the west side of the stadium is the 114 foot slope of Shocker Mountain Ski School, the first synthetic ski slope ever built on a university campus. The slope has its own rope tow and a chair-lift is under construction; ski equipment is also available. The Shocker Baseball Field has its own artificial surface infield and grass outfield.

REHABILITATION ENGINEERING CENTER

The Rehabilitation Engineering Center was formally established by the Kansas Board of Regents in the College of Engineering at Wichita State University in the spring of 1978. This was the first center established for the engineering college and was the result of research efforts initiated in 1972 by Dr. John Leslie and Dr. Roy Norris. The objective of the Rehabilitation Engineering Center is to use technology to improve the vocational prospects of the severely disabled.

A qualified engineering staff, along with a well-equipped rehabilitation laboratory, technicians and a well-equipped shop facility, provides the necessary means with which the objectives are accomplished. A federally sponsored rehabilitation grant makes it possible for faculty and students to actively participate in this research endeavor.

ULRICH MUSEUM OF ART AND UNIVERSITY ART COLLECTION

The Edwin A. Ulrich Museum of Art at Wichita State University opened in December 1974, in an effort to provide another avenue of
enrichment to the University and the community. Since that time the museum has held approximately 130 exhibitions, including superb shows of the work of Alberto Giacometti, Milton Avery, Henri Manguin, Ernest Trova, David Hockney and Joan Miró.

The focus of the University's permanent collection has been in the field of 20th century American art. More than 3,000 objects have been added to the collection, including large outdoor sculptures by Barbara Hepworth, George Rickey, Louise Nevelson, Kenneth Armitage, Jose deCreeft and Lynn Chadwick, to name a few.

The Ulrich Museum has become nationally recognized for the outstanding quality and vitality of its programs. Thirty-two well-known artists have visited the University, where they attended openings of their exhibitions, met the public and worked with students. The visiting artists have included Henry Moore, Wayne Thiebaud, Isabel Bishop, Richard Pousette-Dart, Arnold Newman, Milton Glazer, W. Eugene Smith, Alice Neel, Gordon Parks and John Gage. In addition, the Museum has an active publication program and has organized traveling exhibitions of work by Ernest Trova and Duane Hanson.

**WALTER H. BEECH AND SUPERSONIC WIND TUNNELS**

Three wind tunnels are available at Wichita State for faculty and student use in aerodynamic studies. The Walter H. Beech Wind Tunnel is a 200 mph closed-return tunnel with a 7 x 10-foot test section. A digital data logging system and an on-line microprocessor with plotting capability, are employed as part of the readout system. Two supersonic wind tunnels, capable of producing wind velocities from two to four times the speed of sound, were given to Wichita State in 1963 by the Boeing Wichita Company.
Student Activities and Organizations

Student organizations may be granted the privileges of a University organization only if they have filed registration forms furnishing the Student Government Association (SGA) with lists of officers and other executive members, statements of purposes and copies of constitutions and bylaws. Once an organization has filed with SGA, it may use Wichita State in its name, use University rooms or grounds for meetings, and post announcements on University bulletin boards.

STUDENT GOVERNMENT

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

The SGA, under its present constitution, is divided into three branches of student government. The Cabinet, Senate and Courts carry out the executive, legislative and judicial functions, respectively.

In addition to sponsoring such student activities as Homecoming, Hippodrome and Parents Day, the Senate, which is completely student elected, charters and registers all other student organizations. It appoints students to University committees and advises the University administration on the student views about policy.

FRATERNITIES AND SORORITIES

Eight national sororities are active at the University: Alpha Chi Omega, Alpha Kappa Alpha, Alpha Phi, Delta Delta Delta, Delta Gamma, Delta Sigma Theta, Gamma Phi Beta and Sigma Gamma Rho. Seven national fraternities are also on campus: Alpha Tau Omega, Beta Theta Pi, Delta Upsilon, Kappa Sigma, Phi Delta Theta, Sigma Alpha Epsilon and Sigma Phi Epsilon.

RELIGIOUS ACTIVITIES

Wichita State welcomes the participation of a number of campus religious groups. Their programs are developed through campus organizations, centers and directors. Programs include informal discussion groups, counseling, worship, service projects and off-campus conferences.
ORGANIZATIONS

Honorary

Alpha Kappa Delta sociol
Alpha Lambda Delta freshman
Beta Gamma Sigma business administration
Delta Sigma Rho—Tau Kappa Alpha forensics
Eta Kappa Nu electrical engineering
Honor Society honors students
Kappa Delta Pi education
Kappa Kappa Psi band (men)
Kappa Mu Psi broadcasting
Kappa Pi art
Lambda Alpha anthropology
Mortar Board leadership, service and scholarly (seniors)
Mu Phi Epsilon music (women)
Omicron Delta Epsilon economics
Omicron Delta Kappa leadership, service and scholarly (junior and senior men and women)
Phi Alpha Theta history
Phi Delta Kappa education
Phi Eta Sigma scholastic (freshman)
Phi Kappa Pi scholastic (university-wide)
Phi Mu Alpha-Sinfonia music (men)
Phi Sigma Tau philosophy
Pi Delta Phi French
Pi Epsilon Delta drama (National Collegiate Players)
Pi Sigma Alpha political science
Pi Tau Sigma mechanical engineering
Psi Chi psychology
Senior Honor Men and Women leadership and scholarship
Sigma Delta Chi journalism
Sigma Delta Pi Spanish
Sigma Gamma Epsilon geology
Sigma Gamma Tau aeronautical engineering
Sigma Pi Sigma physics
Spurs service (sophomore students)
Tau Beta Pi engineering
Tau Beta Sigma band (women)
Zeta Phi Eta speech arts

Professional and Departmental

Accounting Club
Administration of Justice Association
Administrative Management Society
Advertising Club
AIESEC
Alpha Kappa Psi
American Chapter, International Real Estate Federation
American Institute of Aeronautics and Astronautics
American Society of Mechanical Engineers
American Society for Personnel Administration
Anthropology Club
Art Council
Art Education Club
Association for Computing Machinery
Biology Club
Black Business Association for Students
Charla Espanol
Chemistry Club
Childhood Education, Student Branch of the Association for
Cierno Italiano
Debate Society
Dialectica
English Graduate Student Association
Geology Club
German Club
Industrial Education Club
Institute of Electronics and Electrical Engineers
Junior American Dental Hygienist Association
Le Cercle Francais
Linguistics Society
Music Educators National Conference
National Student Association for Speech and Hearing
Pershing Rifles
Physical Education Majors Club
Physical Therapy Student Association
Pi Omega Pi (business teachers)
Political Science Club
Political Science Graduate Student Association
Potters Guild
Pre-Law Club
Pre-Med Club
Psychology Club
Psychology Graduate Student Organization
Rho Epsilon
Rifle Team
Senior Classical League
Sigma Alpha Iota
Society for Automotive Engineers
Society of Women Engineers
Student Advisory Council for Nursing
Student Branch of the Association for Childhood Education
Student Kansas National Education Association
Student Nurses Association of Kansas
Student Physics Society
Student Social Workers Organization
Urban Club
Women in Communications, Inc.

Special Interest

Alpha Phi Omega (Scouting)
Amateur Radio Club
Ananda Marga Yoga Society
Baha’i Club
Baptist Student Union

Wichita State University/Student Activities 63
Black Student Union
Campus Crusade for Christ
Cheerleaders
Chinese Association of WSU
Christian Science Organization
Circle K (Kiwanis)
Crew Club
Ecumenical Christian Ministries
Environmental Improvement, Association
for
Evening Students Association
Flatland Frisbee Association
Flying Club
Free University
Friends of Men's Glee Club
Great Plains Mountaineering Association
Indian American Student Association
Inter-Varsity Christian Fellowship
Karate Club
Latter Day Saints Student Organization
Little Sisters of Minerva
Little Sisters of Pallas
Lutheran Student Center
MECHA—Movimiento Estudiantil Chi­cano de Aztlan
Mid-America Dance Company
Model United Nations
Nigerian Student Association
Physically Handicapped Students Association
Rodeo Club
St. Alban's University Parish
St. Paul's Parish Newman Center
Shockettes
Sisters of the Golden Heart
Skydivers

Student Alumni Association
Student Homophile Association
Students' International Meditation Society
Trefoil (Campus Girl Scouts)
Unitarian Student Organization
Veterans on Campus
Wheatland Dolls
World Student Association
WSU Havurah
Young Americans for Freedom
Young Democrats
Young Republicans

Living Groups
The Coeds
Fairmount Towers Hall Council
Yale Club

Governing
ASK—Associated Students of Kansas
AWS—Association for Women Students
Board of Student Publications
Campus Activities Center Activities Council
Engineering Council
Fraternity Presidents Council
Inter-Residence Council
Panhellenic Council
Student Government Association
Student Publications, Board of

Key to Course Descriptions

SYMBOLS

When two course numbers are joined by a hyphen (-), the first semester is prerequisite to the second; when the numbers have an ampersand
(&) between them, the two semesters may be taken in either order. Unless specifically noted otherwise, the first course listed is offered in the fall semester and the second in the spring.

The number of hours of credit for each course is indicated in parentheses following the course title. The number of class meetings per week is normally the same as the number of credit hours. Two hours of laboratory work are usually required for one hour of credit. In courses involving meetings other than lectures, the following symbols are used: R, lecture; L, laboratory; C, conference; D, demonstration; and P, practicum, with the hours of practicum per week given in front of the letter (6-8P means 6 to 8 hours of practicum per week).

ABBREVIATIONS

The following abbreviations of academic departments are used in references to courses offered by those departments.

Acctg.  Accounting  Journ.  Journalism
Admin.  Administration (business)  LS  Library science
AE    Aeronautical engineering  Ling.  Linguistics
AJ    Administration of justice  Logo.  Logopedics
AM    Applied music  Math.  Mathematics
Anthro.  Anthropology  ME    Mechanical engineering
Art Ed.  Art education  MET    Mechanical engineering technology
Art Hist.  Art history  MFT    Manufacturing engineering technology
Bus. Ed.  Business education  MS    Military science
Chem.  Chemistry  Mus.-Comp.  Musicology-composition
CS    Computer science  Mus. Perf.  Music performance
DH    Dental hygiene  MT    Medical technology
EAS   Educational administration and supervision  NC    Nurse clinician
Econ.  Economics  Nurs.  Nursing
EE    Electrical engineering  PA    Physician's assistant
EET   Electrical engineering technology  PD    Personal development
Eng.  English language and literature  PE    Physical education, health and recreation
Engr.  General engineering  Phil.  Philosophy
Fr.    French  Phys.  Physics
FST   Fire science technology  Pol. Sci.  Political science
GD    Graphic design  Port.  Portuguese
Geog.  Geography  Psych.  Psychology
Geol.  Geology  PT    Physical therapy
Ger.  German  Rel.  Religion
Geron.  Gerontology  RT    Respiratory therapy
HAE   Health administration and education  SA    Studio arts
Hist.  History  Span.  Spanish
Hon.  Honors Program  SPG  Student personnel and guidance
HS    Health sciences  Soc.  Sociology
IE    Industrial engineering  SW    Social work
IS    Instructional services  UA    Urban affairs
Ital.  Italian  WS    Women's studies

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Harry Sternberg, *Steel Workers*
DIVISION OF CONTINUING EDUCATION

JAMES H. PETREE, EdD, DEAN

One of the four basic objectives of Wichita State is to provide continuing education opportunities for adults. The programs and activities of the Division of Continuing Education are directed to the adults of the larger Wichita community and the state. The division strives to meet the higher education needs of adults through cultural, vocational and professional academic endeavors. The functions of the division are to:

1. Afford, through cooperation with degree-granting colleges, on-and off-campus courses leading to a degree
2. Cooperate with business, industry and the professions in providing specialized credit and noncredit courses
3. Develop and sponsor lectures, conferences and institutes as community services for the general public
4. Provide opportunities for personal enrichment through a variety of course offerings
5. Maintain administrative facilities for students who have matriculated for special academic programs or for an unspecified degree
6. Assist adult students in preprofessional or career development by making available the learning resources of the University through nontraditional means.

Special Services

ADULT GUIDANCE

Working adults who attend classes on a part-time basis present different interests, needs and problems from those students who devote full time to their educational programs. The counselors in the Division of Continuing Education are adults who have experienced these problems and who are committed to focusing the total resources of the University on solving them.

The division offers special programs of orientation to the University for entering adults and holds general group guidance sessions on a regular basis. The counselors schedule individual conferences with students to discuss their academic, professional and personal concerns.

The division recognizes that many women who interrupt their education and careers to concentrate on homemaking and child-rearing require special services for successfully returning to college and careers. The division maintains an ongoing counseling and program development office to help women overcome problems created by such discontinuity.
MARCUS CENTER FOR CONTINUING EDUCATION

The division offers a multiplicity of educational services through the Marcus Center for Continuing Education, a modern, adult education facility located at 4201 East 21 Street, adjacent to the University golf course and swimming pool. Specialized courses for business and industry, governmental agencies and the professions; special conferences for the general public; and a wide variety of personal enrichment programs are offered in the center. In addition to renting meeting areas, the Marcus Center staff provides program development, brochure preparation, mailings, fee collection, materials preparation and reproduction, registration, and program evaluation.

CENTER FOR CONTINUING HEALTH EDUCATION

The Center for Continuing Health Education, a component of the Division of Continuing Education housed in the College of Health Related Professions, provides continuing educational opportunities for all members of health related professions in Kansas. Through workshops, seminars and conferences, the center effectively provides all health professionals with current information and developments related to their specific fields.
CENTER FOR MANAGEMENT DEVELOPMENT

The Center for Management Development, a component of the Division of Continuing Education housed in the College of Business Administration, provides continuing business education, professional development, specialized information and direct assistance in management development for the state’s business, industries, and governmental and social agencies.

NONTRADITIONAL PROGRAMS

The division seeks to extend the instructional resources of the University to the working adult. In meeting the special time and place restrictions of the working public, the division utilizes many nontraditional techniques: off-campus activities, independent study, correspondence courses, Weekend University and programs offered through television, radio, newspaper and telephone network.

Academic Regulations

ADMISSION

Regular Continuing Education Students. Students who are not currently working toward a specific undergraduate degree at Wichita State are admitted to the Division of Continuing Education as regular continuing education students. To be admitted, they must submit high school transcripts—and if they have attended college, college transcripts—to the Wichita State Office of Admissions.

Special Continuing Education Students. Adults may be admitted to the division as special students for a maximum of 15 hours, provided they hold a baccalaureate or higher degree or they are currently on active military duty. They are also eligible if they have not attended high school or college during the past two years and they have earned the high school diploma, or GED, or are at least 21 years of age. Special open admission students need only submit an application for admission. Test scores and transcripts are not required.

In order to enroll in work beyond the semester in which the 15th hour is completed, a special student must notify the division of intent to become either a regular continuing education student or to transfer to a degree program in University College or in one of the baccalaureate colleges. The division will provide the student with the necessary form near the end of the semester in which the 15th hour is reached.
PROBATION AND DISMISSAL STANDARDS

Probation. Students admitted to the Division of Continuing Education in good standing (having a 2.00 or higher grade point average), and special continuing education students will not be placed on probation regardless of their grade point average until they have attempted 12 credit hours after admission or readmission to Wichita State University. Attempted hours are defined as all hours appearing on the transcript with a grade of A, B, C, D, P, F, W, Cr, NCr, S, U and I. 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.

Since the probation level of the division is 2.00, students are placed on academic probation whenever their cumulative grade point average falls below 2.00, except as noted in the preceding paragraph. They remain on probation as long as their cumulative average is below 2.00 but is at least 1.50.

Students on probation are limited to a maximum load of 12 hours per semester, unless an exception is made by the dean of continuing education.

Dismissal. The dismissal level for the Division of Continuing Education is 1.50. Students are dismissed whenever their current semester grade average is below 2.00 and their cumulative grade average is, or falls, below the dismissal level of 1.50. They are not academically dismissed at the end of a semester unless they entered that semester on academic probation. Moreover, students are not dismissed before accumulating 12 attempted semester hours of credit work at Wichita State after being placed on probation, unless other standards are specified as a condition of admission.
Readmission after Academic Dismissal. Students who have been academically dismissed may seek readmission to the Division of Continuing Education by appealing, in writing, for an exception to the regulations. The written petition is forwarded by the dean of continuing education to the University's Committee on Admissions and Exceptions for final action.

TRANSITION SEMESTER

Entering college students enrolled in the Division of Continuing Education may elect to have their first semester grades translated into credit/no credit grades, as outlined in the Academic Information—Transition Semester section of the Catalog.

TRANSFERRING CREDIT FROM CONTINUING EDUCATION

Students in the Division of Continuing Education who subsequently wish to work toward a Wichita State baccalaureate degree may transfer their credits to University College or to a degree-granting college. In transferring to another college, students must meet the admissions requirements established by that college.

Program Information

The Division of Continuing Education publishes a schedule of credit and noncredit courses each semester. It also provides brochures throughout the year about special conferences, workshops and institutes as they are developed by the University in response to community requests.
Chaim Gross, *Happy Mother*
University College, as a part of the Division of Student Affairs, exists to help new students develop a good foundation for personal development and academic success at Wichita State. It is the first academic home for all first-semester freshmen working toward a degree and for those transfer students who have not completed 24 semester hours with at least a 2.00 grade point average or who have not declared an academic major. Special students and guest students not seeking a degree at Wichita State enroll in the Division of Continuing Education. However, University College does extend guest student admission to selected high school students with the consent of their high school principal.

Academic services provided by University College include student counseling prior to orientation and enrollment; orientation and personal planning programs; registration, advising and consultation; personal development courses in reading, writing and study skills; freshman seminars and occupation seminars for personal development and vocational exploration; reports to students on their academic progress; coordination with honors programs; administrative handling of emergencies and exceptions, including readmission after academic dismissal; and transfer from University College into one of Wichita State’s undergraduate degree-granting colleges. (These colleges are the College of Business Administration, College of Education, College of Engineering, College of Fine Arts, College of Health Related Professions and Fairmount College of Liberal Arts and Sciences.)

Students in University College are enrolled in courses offered by departments in the degree-granting colleges and taught by faculty from those departments, with the exception of the credit or noncredit personal development courses offered by University College that are listed at the back of this section.

While enrolled in University College, students are expected to remove high school deficiencies, develop effective study skills and habits, choose an academic major, develop a personalized academic plan and complete part of the general education requirements.

High School Preparation and Admission to University College

Students are advised to complete their high school work with at least 4 units of English, 2 units of history and social sciences, 1½ units of algebra, 1 unit of geometry and 2 units of natural science excluding general science. Students planning to work toward a degree in Fairmount College of Liberal Arts and Sciences should also consider
taking at least 2 units of one foreign language. Students planning to earn a degree in engineering or the physical sciences should take college algebra and trigonometry in high school.

Students may also be admitted to Wichita State and enroll in University College if their high school equivalency test scores on the General Education Development (GED) tests are satisfactory.

All students admitted to University College must file official high school and college transcripts and American College Test (ACT) scores before attending orientation and registering for courses.

Students who transfer to University College from the Division of Continuing Education follow the same procedures and meet the same requirements as new freshmen: they file transcripts and ACT scores and participate in an orientation program. (For more information on general Wichita State University admission requirements, see the Admission to Wichita State section of the Catalog.)

**Student Responsibility**

All students are expected to familiarize themselves with graduation requirements, course prerequisites, enrollment dates and procedures, and all other policies stated in the current *Wichita State University Catalog* and in the *Wichita State University Schedule of Courses*, published before every semester and Summer Session.

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

Every semester all students enrolled in University College are expected to develop an academic plan with the assistance of their academic advisers. Students who have declared an academic major form their graduation plan with the help of a faculty adviser from their major field. Students who have not declared a major develop an exploration plan with the help of University College counselors. Students are expected to bring their academic records to all advising and enrollment activities.

**Orientation**

Orientation and personal planning programs help new students become a part of the learning community; teach the requirements, expectations and procedures of that community; and assist students in thinking through and developing a written plan for their personal development and education.
Orientation and personal planning are not preludes to education, but rather are a part of college education itself. Therefore, all first semester University College students are required to attend an academic orientation and to participate in personal planning sessions before enrolling for courses. A required, nonrefundable orientation fee is charged to all students which includes payment for the *Wichita State University Catalog* and a special guidebook (*Commencement I*). Orientation programs are scheduled in advance of both the fall and spring semesters. Information about orientation and registration is sent by University College to all students who have been admitted to University College.

**Academic Advising**

All full-time University College students are assigned an academic adviser. When students declare a major field of study, they are assigned a faculty member in that department. Students who have not declared a major are assigned to faculty from the various departments, to a counselor in University College or to a staff person in the Division of Student Affairs. Part-time, evening-only students are usually not assigned to faculty advisers but are encouraged to seek advice and counsel from University College staff members. Evening students should contact the University College office to find out which evenings the office is open.

**Academic Opportunities**

**FIRST SEMESTER—TRANSITION SEMESTER**

The first semester is a special period of transition and adjustment. During this time, students should develop the knowledge, skills and confidence to become academically successful and self-directing.

Freshmen in their first semester of college work enjoy a special option of translating letter grades into credit or no credit at the conclusion of the first semester, as discussed under the Academic Information—Transition Semester heading of the *Catalog*.  

*University College*  75
GENERAL EDUCATION PROGRAM

All degree programs at Wichita State require that a specific number of semester hours of general education courses be taken. Wichita State's general education requirements are based on the conviction that college graduates should be exposed to a broad sampling of knowledge about themselves and the world—not a narrow discipline of knowledge and skills.

The general education requirements include a wide variety of courses organized into several divisions, as shown in the Academic Information—Requirements for Graduation section of the Catalog. Students must develop their own personalized general education program by choosing courses from each of the divisions. Whenever possible, students should select courses that meet both general education requirements and major requirements. For instance, students considering physics as a major may meet both a general education science/mathematics requirement and a major course requirement by enrolling in a mathematics course for which they have the proper background.

PERSONAL DEVELOPMENT/ADVANCED PLACEMENT AND CREDIT

All students should continue their development and education through experience, knowledge and skills development. Toward that objective, University College provides personal development courses in reading, writing and study skills. The Department of Mathematics also offers high school-level algebra and geometry for those who are not prepared for college study.

Students may earn credit toward a degree (with the credit recorded on the official transcript) without enrolling in a course. They can do this by making satisfactory scores on the American College Test (English and mathematics), Advanced Placement, College-Level Examination Program (English, mathematics, social sciences, humanities and natural sciences) and department exams. For full details, consult with the director of the Testing Center.

SPECIAL PROGRAMS AND SEMINARS

Honors. New University College students should acquaint themselves with the criteria and advantages offered by the Wichita State Emory Lindquist Honors Program. The honors program is briefly explained in the Academic Information section of the Catalog and can be described in depth by the honors coordinator.

Freshman Seminar. Freshman Seminar is an elective, 1-hour credit course for new students seeking special opportunities that relate students and faculty in fellowship, give students an opportunity to develop interpersonal communication skills and offer a chance to focus attention on their own personal development. The seminars consist of
small groups (8 to 15 students) led by either faculty or selected juniors or seniors who have received special leadership training. The program was created to help new students develop education-related peer groups and to enhance the social modeling process in a university context, a framework in which many students have difficulty developing close friendships.

**Occupation Seminar.** Occupation Seminar is an elective, 1-hour credit course for students who have not declared an academic major and who lack a clear educational and vocational goal. Students study themselves, the world of work and the opportunities available in higher education through individual testing, group discussions, job interviews and role playing.

Approximately 40 percent of all new University College students are unsure of their vocational and educational goals. Most of them do not declare an academic major and spend several semesters in courses chosen for their exploration and general education values.

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**Transferring to a Degree-Granting College**

Students are expected to qualify for transfer to one of the six undergraduate degree-granting colleges at the end of the semester in which they complete 24 semester hours. To qualify for transfer to a degree-granting college, they must have completed 24 semester hours successfully and have an overall grade point average of 2.00 or above.

Students who have declared a major and who qualify for transfer into the college of their choice are transferred automatically. Students who have not declared a major or who are otherwise unqualified to
transfer are required to review their program with a University College
counselor in order to clarify status and confirm realistic plans for
continuing academic progress.

Students may not continue in University College after the semester
in which they complete 48 semester hours unless they petition for an
exception and have it approved by the University College Exceptions
Committee and the University's Committee on Admissions and Ex­
ceptions. Students may not continue in University College after the
semester in which they complete 60 semester hours.

Academic Progress, Probation and Dismissal

PROBATION AND DISMISSAL

Since a 2.00 (C) average is required for graduation, students are placed
on academic probation whenever their cumulative grade point average
falls below 2.00 and they have attempted at least 12 credit hours.
Attempted hours are defined to be all hours appearing on the transcript
with a letter grade of A, B, C, D, F, P, W, Gr, NGr, I, S or U. 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.

University College students who have attempted 12 credit hours since being placed on probation (unless other standards were specified as a condition of admission or readmission), and who do not have a 2.00 grade point average for the most recent semester (or Summer Session), will be academically dismissed if they have attempted a total of 13 through 24 credit hours and their cumulative grade point average is below 1.50. Those who have attempted a total of 25 through 59 credit hours will be dismissed if their cumulative grade point average drops below 1.70, and those who have attempted a total of 60 or more credit hours will be dismissed if their cumulative grade point average falls below 2.00. The grading system is explained at length in the Academic Information section of the Catalog.

Transfer students admitted on probation must complete at least 12 semester hours of credit work, achieve a 2.00 grade point average on work at Wichita State and have a 2.00 cumulative grade point average before probation is removed.

Students on probation are normally limited to a maximum load of 12 hours per semester, although exceptions may be made by the dean of University College.

EMERGENCIES AND EXCEPTIONS

All regulations governing students at Wichita State are subject to petition for an exception. Students may have their problems and emergencies considered by the University College Exceptions Committee and then the University’s Committee on Admissions and Exceptions if they present a formal, written petition.

READMISSION AFTER ACADEMIC DISMISSAL

Students who have been academically dismissed may seek readmission to University College by appealing in writing for an exception to the regulations. Usually University College requires petitioners to appear for a personal interview and to prepare a detailed program of studies for the approval of the dean of University College before the written petition is forwarded to the University’s Committee on Admissions and Exceptions.

Because counseling and advanced planning require careful attention and much time, students should initiate the readmission process at least ten days before the first day of enrollment. Interviews are not conducted during any of the scheduled registration sessions.

The case for readmission must be developed by the students themselves. They should center the petition around an explanation for their failure and a presentation of evidence that success is possible and likely.
Preprofessional Programs

Students planning on professional graduate-level studies are assigned to qualified faculty advisers in the selected preprofessional areas for the purpose of developing strong undergraduate preparation. For example, students with health career goals see faculty from the College of Health Related Professions or Fairmount College of Liberal Arts and Sciences. They are enrolled through University College for their first 24 semester hours and then transferred to either the College of Health Related Professions or Fairmount College of Liberal Arts and Sciences for the degree program of studies.

Students should check with their assigned advisers to see what preprofessional courses should be taken while they are in University College.

DIPLOMA NURSING

Students seeking to prepare themselves for admission to a diploma-granting hospital school of nursing are enrolled in University College for specific courses selected to meet the common admission requirements. Currently, the Wesley Medical Center School of Nursing has the only diploma nursing program in Wichita. It is the student's responsibility to apply to a nursing school and obtain the specific requirements of that school. The following suggested curriculum has been developed through consultation with the Wesley Medical Center School of Nursing. The suggested program, followed by two years of clinical experience and study in the hospital, qualifies students for a diploma and prepares them for the state Registered Nurse Examination.

Prenursing students should plan on at least one summer and two full semesters of study. An additional semester may be required for students who have high school deficiencies. Certain courses also need to be taken in a special sequence. For example, high school algebra is a prerequisite for Chem. 103. Chem. 103 should precede the biology sequence, especially Biol. 120, and Biol. 225 is the prerequisite to Biol. 226.
Suggested Program, Diploma Nursing

SUMMER SESSION

Course Hrs.
Chem. 103, General Chemistry 5

FIRST SEMESTER

Course Hrs.
HS 201, Orientation to Health Professions (not required) 2
Psych. 111, General Psychology 3
Eng. 101, College English I 3
Soc. 211, Introduction to Sociology or Anthro. 202, Cultural Anthropology 3
Biol. 225, Human Anatomy 3

SECOND SEMESTER

Course Hrs.
Biol. 226, Elementary Human Physiology 3
Biol. 120, Introduction to Microbiology 4
Psych. 361, Child Psychology 3

Courses

CREDIT COURSES

Personal Development
100. Freshman Seminar. (1). A study of the university as a resource for personal development and the development of an individual master plan for study and self-development in the university. J 11 100 2 0601

102. Occupation Seminar. (1). A study of occupations and curricula, development of a personal profile from test results and past experiences, selection of a major curriculum and development of a master plan to be followed. J 11 102 2 4999

160. Reading Improvement Techniques. (3). A course designed for students who seek to improve reading and study skills. Reading and study habits are diagnosed, and results are used to design a program of self-improvement in these and other skills for each student. J 12 160 1 1501

NONDEGREE CREDIT COURSES

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

Personal Development

090. Writing Improvement Techniques. (2). Designed for those students who are interested in developing writing skills directly related to use in academic courses. Emphasis is placed on individualized and basic skill development. J 12 090 1 1501

090. Listening and Verbal Communication. (2). Much of the information students gain in college is through listening to lectures and discussions. This course provides training in the skills of recognizing important information and taking good notes. J 12 090 0 0601

Mathematics

007. Arithmetic. (3). A review and study of the basic arithmetic operations for the mature student whose previous training in arithmetic is inadequate for completion of college mathematics courses. A 20 007 0 1701

011. Algebra. (5). The topics from high school algebra essential to the study of university-level mathematics are studied. This course may be used to meet departmental prerequisites in place of 1½ units of high school algebra. A 20 011 0 1701

021. Plane Geometry. (3). For students without high school credit in plane geometry. This course may be used to meet departmental prerequisites in place of 1 unit of high school geometry. Prerequisite: 1 unit of high school algebra or Math. 011 or concurrent enrollment in Math. 011. A 20 021 0 1701

University College 81
The mission of the Wichita State College of Business Administration is to provide an educational environment in which students and faculty can discover, examine critically, preserve and transmit the knowledge and values essential to the improvement of the quality of life for society and for the individual. By offering these learning opportunities, the college contributes to the development of professionally competent and socially responsible men and women for careers in business, government and other organizations requiring the organizational, managerial and analytical skills necessary in today's rapidly changing environment.

This mission is influenced by the location of the college 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 College of Business Administration is committed to programs and activities that will help sustain the contribution that this urban center makes to the economic, professional and cultural health of the state and nation.

Within this context, the faculty of the college state the following objectives:

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

Programs

UNDERGRADUATE—BACCALAUREATE

The undergraduate curriculum of the College of Business Administration leads to the Bachelor of Business Administration (BBA). Areas of emphasis or majors are offered in several fields within the accounting, administration, business education and economics departments.
UNDERGRADUATE—ASSOCIATE OF SCIENCE

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

SECOND BACHELOR’S DEGREE

Students may obtain a second bachelor’s degree in the College of Business Administration. To be eligible for a second bachelor’s degree, students must: (1) complete a minimum of 30 hours in residence in the College of Business Administration in addition to the work required for the first bachelor’s degree and (2) satisfy the college's general requirements and emphasis/major requirements in effect at the time they embark on the program leading to a second bachelor’s degree.

BUSINESS TEACHER EDUCATION

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

BUSINESS EMPHASES IN OTHER UNIVERSITY PROGRAMS

Students in Fairmount College of Liberal Arts and Sciences may major in economics, as well as minor in accounting, administration and economics.

Students in the College of Education may major or minor in business education or economics, as well as minor in accounting.

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

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

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

GRADUATE

Master’s degree programs in the college lead to the Master of Business
Administration (MBA), Master of Science (MS) in accounting and administration, and the Master of Arts (MA) in economics.

For additional information on graduate programs, see the Wichita State University Graduate School Bulletin.

CONTINUING PROFESSIONAL DEVELOPMENT

As a part of an urban, state-supported institution, the college feels a responsibility to provide educational programs and specialized services for members of the community and the state who are not full-time students. In response to community needs, the college maintains an active program of continuing education through the Center for Management Development and Center for Economic Education.

ACCREDITATION

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

Policies

ADMISSION

Entering Wichita State freshmen interested in business administration are first admitted to University College and must meet the general entrance requirements of the University. (For the program of high school preparation recommended for entering students, see the University College and Admission to Wichita State sections of the Catalog.)

Students may enter the College of Business Administration from University College, other degree-granting colleges within the University, or other universities and colleges, provided they have completed 24 semester credit hours and have earned a cumulative grade point average of 2.00.

PROBATION

Students are placed on probation at the end of any semester in which they do not have a cumulative grade point average of 2.00. Probation is removed when their cumulative grade point average reaches the required 2.00 level. Students remain on probation if they earn a 2.00 or better grade point average in the term during which they are on probation but their cumulative grade point average does not reach 2.00. Students on probation because of a deficient cumulative grade point average may not be academically dismissed until they accumulate 12 or more attempted hours after being placed on probation.

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

REQUIREMENTS FOR GRADUATION—BACHELOR OF BUSINESS ADMINISTRATION

Students must meet University graduation requirements, listed in the Academic Information section of the Catalog. Candidates for the Bachelor of Business Administration must also satisfy the following additional requirements:

1. Complete at least 56 semester hours of course work offered outside the college (Econ. 201 and 202 may count as courses outside the college, but Hist. 515, 516 and 614 and Pol. Sci. 655 and 687 may not.)

2. Complete at least 50 semester hours of course work offered by the College of Business Administration

3. Complete the set of core requirements specified for the Bachelor of Business Administration, given later in this section

4. Complete the requirements for an emphasis or major in one of the departments (accounting, administration, business education or economics) in the college, given later in this section

5. Achieve a grade point average of 2.00 or better on (a) all college work, (b) all work taken at Wichita State, (c) all business and economics courses and (d) all business and economics courses taken at Wichita State that could be applied to the degree sought.

REQUIREMENTS FOR GRADUATION—ASSOCIATE OF SCIENCE

Specific course requirements for the Associate of Science in secretarial training and the Associate of Science in legal assistant are listed immediately after the core and departmental requirements for the Bachelor of Business Administration degree.

CATALOG IN EFFECT

Students whose college program has not been interrupted by more than two consecutive calendar years may graduate under the requirements in effect at Wichita State on the date they first entered any college or university or under the requirements of any subsequent Wichita State University Catalog. However, students are not allowed to graduate under the requirements of a Catalog that was in effect earlier than two years before they matriculated at Wichita State.

If students' college programs have been interrupted by more than two consecutive years, they are subject to the Wichita State University Catalog requirements in effect when they reenter, or if they elect, the requirements of a later Catalog.
EXTENSION OR CORRESPONDENCE WORK

Not more than 6 hours of the last 30 hours or 10 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 college, (2) are required for any emphasis within the college or (3) are offered at the junior or senior level in the college.

A/PASS/FAIL

The following restrictions pertaining to courses taken for A/Pass/Fail credit apply to students enrolled in the College of Business Administration.

1. No course in the College of Business Administration core may be taken on an A/Pass/Fail basis.
2. No course in the student's area of emphasis may be taken on an A/Pass/Fail basis.
3. Except for the cases given above, students enrolled in the College of Business Administration are subject to the A/Pass/Fail regulations of the University.

Advising

The faculty and staff in the college feel that students should have impartial and knowledgeable advising when desired and appropriate. The college's advising system offers students:

1. Guidance in the consideration of career objectives
2. Suggestions of specific courses of study that will satisfy career objectives and degree requirements of the college and University
3. Additional counsel and advice as required.

Advising is designed to provide assistance when desired and appropriate. Students are not required to seek advising if they do not feel the need.
TYPES OF ADVISING ASSISTANCE AVAILABLE

For advising to be successful, students must know the major types of assistance available. These types are summarized in the following paragraphs.

**Career Planning.** The first major decision students must make after being admitted to the College of Business Administration is the selection of an emphasis area within the college. This decision should be based upon their particular career objectives: do they want to be professional accountants, economists, marketers, managers, financial analysts, etc.? To find out about their areas of interest, students should consult with faculty members in the various academic areas. A list of advisers by academic area is available in the dean's office, 100 Clinton Hall.

Selection of an emphasis area will determine the department within the college that a student will be most closely associated with while at Wichita State. These departments are accounting, administration, business education and economics. Questions about specific departmental requirements should be directed to the appropriate department's chairperson.

Once the emphasis area and department are chosen, students must select the specific course of study that will best satisfy their career objectives. In addition to meeting the University's and college's requirements for graduation, students need to select appropriate courses for their chosen emphasis. Courses best suited for the emphasis should be selected in consultation with a faculty adviser.

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

Evaluation of course work being transferred to Wichita State is done by the college’s student records office, 106 Clinton Hall, working in conjunction with the dean’s office and the various departments within the college. If students have applied for admission to Wichita State well in advance of their first semester on campus, this evaluation should be complete and on file in the student records office.

The student records office also keeps a current record of each student's progress at Wichita State. Students should periodically check their records to be certain that they are informed of their progress toward completion of degree requirements.

**Schedule Building.** Schedule building is the determination of what specific courses a student should take in a given semester. Students should refer to the *Wichita State University Schedule of Courses* and *Catalog* in consultation with a faculty adviser to determine the courses they should consider for a given semester. Selection of specific sections and times for courses to be taken is the student’s responsibility.
Counseling. For types of assistance not covered here, students are urged to seek advice from individual instructors, department chairpersons, faculty advisers, the dean’s office or the University Counseling Center.

TRANSFER STUDENTS

Students planning to transfer into the College of Business Administration 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)

Communications
   Composition (6 hours)
   Speech (2-3 hours)

Humanities (8 hours)

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

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

Nonbusiness Electives (10 hours)

Bachelor of Business Administration

In addition to WSU General Education Program requirements (given in the Academic Information section of the Catalog), all students in the College of Business Administration must meet a set of college core requirements and complete additional work outside the core in an area of emphasis.

CORE

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

II. Environment of Business
    Admin. 330, Business and Society
    Econ. 201-202, Principles of Economics I-II and one upper division economics course

III. Business Functions
    Admin. 300, Marketing
    Admin. 340, Finance
    Admin. 350, Introduction to Production Management

IV. Accounting, Quantitative Methods and Information Systems
    Acctg. 210, Introduction to Financial Accounting
    Acctg. 220, Introduction to Managerial Accounting

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Econ. 231, Introductory Business Statistics
Admin. 192, Management Information Systems for Business
V. Organizational Theory
Admin. 360, Concepts of Administration
VI. Business Policy
Admin. 681, Administrative Policy

AREAS OF EMPHASIS/MAJORS

Candidates for the BBA must satisfy the additional requirements of one of the following curricular emphases/majors.

Accounting

A major in accounting may be taken only in the College of Business Administration. A minor in accounting may be taken in Fairmount College of Liberal Arts and Sciences, with a minimum of 15 hours, including Acctg. 210-220, 310 and 410.

Requirements for a major in accounting are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acctg. 320, Cost Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 430, Income Tax and Managerial Decisions</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 550, Accounting Systems and Electronic Data Processing</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 435, Law of Commercial Transactions</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 436, Law of Business Associations</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. electives (two courses from the following):</td>
<td>6</td>
</tr>
<tr>
<td>Acctg. 510, Advanced Financial Accounting</td>
<td></td>
</tr>
<tr>
<td>Acctg. 630, Advanced Income Tax</td>
<td></td>
</tr>
<tr>
<td>Acctg. 640, Principles of Auditing</td>
<td></td>
</tr>
<tr>
<td>Other courses as approved by the chairperson of the Department of Accounting</td>
<td></td>
</tr>
</tbody>
</table>

Professional Designations. Students interested in accounting may pursue several different professional designations. The designation Certified Public Accountant (CPA) is one of the most widely known and respected designations. Basic competence to sit for the CPA examination is achieved by acquiring the common body of knowledge required by the Kansas State Board of Accountancy. Graduates with an accounting emphasis qualify to sit for the Kansas CPA examination, provided they satisfy the requirements of Kansas law and the regulations of the Kansas State Board of Accountancy. Information pertaining to these requirements may be obtained from the Department of Accounting.

There are additional professional designations, including the Certificate in Management Accounting (CMA). Information pertaining to the CMA program may be obtained in the Department of Accounting.

Administration

The Department of Administration offers eight majors. Students must select one of these majors and plan a degree program according to the
requirements outlined below. Since these majors build on the College of Business Administration core requirements, they usually require one or more prerequisites from the college core. Students should plan to complete the core as early as possible in their programs and should consult with an adviser in their major area. A list of advisers for each major is available in the dean’s office, 100 Clinton Hall.

Aviation Management Major

Required courses: 
Admin: 220, Introduction to Aviation ........................................ 3 
Admin. 221, Private Flight, Theory and Lab ..................................... 1 
Admin: 420, General Aviation: Management and Marketing .................. 3 
Admin. 421, Airport Planning and Management ................................... 3 
Admin. 422, Airline and Air Travel Management .................................. 3 
Econ. 615, Economics of Transportation ......................................... 3 
Econ. 616, Economics of Air Transportation ...................................... 3 
Geog. 235, Meteorology ............................................................... 3

Finance Major

Required courses: 
Admin. 640, Financial Management .................................................. 3 
Admin. 641, Investments ................................................................... 3 
Admin. 643, Capital Markets and Financial Institutions ......................... 3 
Electives, from the following: .......................................................... 6 
Admin. 444, Contemporary Issues in Banking 
Admin. 644, Commercial Bank Management 
Admin. 645, Security Analysis and Valuation 
Acctg. 310, Intermediate Financial Accounting I 
Econ. 340, Money and Banking

Electives, selected with consent of major adviser ................................ 6 
Additional courses in finance, other than those listed above, are 
Admin. 140, 348 and 648

General Business Major

Required courses: 
A minimum of 15 hours must be selected from courses listed below and 
distributed over four of the five areas .............................................. 15 
Marketing: Admin. 403, 405, 609 
Finance: Admin. 640, 641, 643, 644, 645 
Production and Quantitative Analysis: Admin. 370, 475 
Personnel: Admin. 466, 664 
Management: Admin. 462, 454, 665, 667, 680

Electives, selected from upper-division courses in accounting, adminis­ 
tration or economics, with the consent of the student’s adviser .......... 6

Management Major

Required courses: 
Admin. 462, Leadership and Motivation ............................................ 3 
Admin. 464, Communication ............................................................ 3 
Admin. 665, Organizational Development .......................................... 3

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Admin. 667, Organizational Structure and Design—Organizing Function ........................................... 3
Admin. 680, Decision Making—Planning and Selection of Alternatives 3
Electives, selected with consent of major adviser ................................................. 6
Additional courses in management are: Admin. 163, 460, 466, 561, 663, 664, 666, 667, 668

Marketing Major

Required courses:
Admin. 403, Marketing Research ................................................. 3
Admin. 405, Consumer Behavior ................................................. 3
Electives, from the following: ................................................. 9
Admin. 404, Retail Management
Admin. 601, International Marketing
Admin. 604, Distribution Management
Admin. 606, Product and Price Policies
Admin. 607, Promotion Management
Admin. 608, Selling and Sales Force Management
Admin. 609, Marketing Programs
Electives, selected with consent of major adviser ................................................. 6

Personnel Administration Major

Required courses:  
Admin. 466, Personnel Management ................................................. 3
Admin. 664, Labor Relations ................................................. 3
Admin. 666, Selection, Training and Placement ................................................. 3
Electives, from the following: ................................................. 6
Admin. 462, Leadership and Motivation
Admin. 464, Organizational Communication
Admin. 663, Organizational Interactions
Admin. 665, Organizational Development
Admin. 667, Organizational Structures and Design
Electives, selected with consent of major adviser ................................................. 6

Production Management Major

Required courses:  
Admin. 475, Introduction to Operations Research ................................................. 3
Admin. 650, Problems and Cases in Production Management ................................................. 3
Admin. 659, Seminar in Production Management ................................................. 3
Admin. 675, Intermediate Operations Research ................................................. 3
Electives, selected with consent of major adviser ................................................. 9
Additional courses in production management and quantitative methods, other than those listed above, are: Admin. 679 and 750

Real Estate and Land Use Economics Major

Required courses:  
Admin. 410, The Real Estate Process: Development in the City ................................................. 3
Electives, from the following: ................................................. 6
Admin. 438, Real Estate Law
Admin. 611, Real Estate Finance: Risk Management in Real Estate
Admin. 614, Real Estate Appraisal: Valuation of Property
Admin. 618, Real Estate Equity Investment and Taxation
Admin. 619, Residential Marketing, Management and Development

Electives, selected with consent of major adviser .................. 12

Business Education
The maximum lower division credit from the Department of Business Education is 28 hours. Required courses for the secretarial emphasis are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus. Ed. 133, Beginning Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 138, Advanced Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 237, Technical Typewriting</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 201, Secretarial Office Machines</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 202, Calculating Machines</td>
<td>2</td>
</tr>
<tr>
<td>Bus. Ed. 231, Elementary Shorthand</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 234, Advanced Shorthand</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 240, Technical Shorthand</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 136, Records Management</td>
<td></td>
</tr>
<tr>
<td>Bus. Ed. 203, Office Procedures and Organization</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 248, Written Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>Bus. Ed. 345, Transcription</td>
<td>3</td>
</tr>
</tbody>
</table>

Economics
Within the 124 hours required for graduation, a minimum of 31 hours in economics is required and a maximum of 41 hours is allowed, including the hours in economics included in the college general requirements. The required courses beyond the college general requirements are:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ. 340, Money and Banking</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 301, National Income Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 302, Production, Price and Distribution Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Upper division electives in economics (not to include more than 6 hours from among Econ. 625, 626 and 627)</td>
<td>12</td>
</tr>
</tbody>
</table>

COURSE SEQUENCE AND SCHEDULING
Three levels of requirements must be completed to receive a BBA: (1) University general education requirements, (2) general requirements in the College of Business Administration and (3) college emphasis requirements. Students should complete the requirements in the order listed, with some overlap and duplication of courses among the three levels.

Students planning to enroll in upper division business courses (courses numbered 300 to 600) must have completed 60 semester credit hours. Accreditation of the college by the American Assembly of Collegiate Schools of Business stipulates that students must be clas-
sified 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 3.25 or above may have the junior standing prerequisite waived with the consent of the instructor of the course and the head of the department in which the course is taken.

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

The following sequence of required courses is recommended:

**Freshman Year**
Math. 111, College Algebra
Math. 144, Business Calculus
Eng. 101-102, College English I-II
Speech 111 or 112—Basic Public Speaking or Basic Interpersonal Communication
Admin. 192, Management Information Systems for Business
General education electives

**Sophomore Year**
Acctg. 210, Introduction to Financial Accounting
Acctg. 220, Introduction to Managerial Accounting
Econ. 201-202, Principles of Economics I-II
Econ. 231, Introductory Business Statistics
General education electives

**Junior Year**
Admin. 330, Business and Society
Admin. 300, Marketing
Admin. 340, Finance
Admin. 350, Introduction to Production Management
Admin. 360, Concepts of Administration
Upper division economics course
Emphasis courses

**Senior Year**
Admin. 681, Administrative Policy
Emphasis courses

**Associate of Science in Legal Assistant**

A legal assistant program is offered through the Department of Administration to prepare students for law-related employment in law firms, corporations and government. The 64-hour program is geared to the legal assistant who is not a lawyer but who handles professional responsibilities under the general supervision of a lawyer. The degree requirements are summarized as follows:

**Course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General Education Requirements (30 hours)</td>
<td></td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
</tbody>
</table>
Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication .................................................. 3
Humanities/Social and Behavioral Sciences (May include General Studies courses. A minimum of 3 hours is required in each category.) .......................................................... 6-18
Natural Sciences and Mathematics (May include General Studies courses.) .......................................................... 6-18

II. Professional Curriculum (34 hours)

A. Required Courses (15 hours)
   Admin. 230, Introduction to Paralegalism ........................................... 3
   Admin. 231, Legal Research and Analysis ........................................ 3
   Admin. 233, Litigation I ................................................................. 3
   Admin. 332, Law and Society ......................................................... 3
   Acctg. 210, Introduction to Financial Accounting .................................. 3

B. Professional Electives (19 hours)
   Admin. 232, Legal Aspects of Business Organizations * .............................. 3
   Admin. 234, Estate Administration ................................................ 3
   Admin. 235, Law Office Management and Technology ............................... 3
   Admin. 236, Litigation II * ................................................................ 3
   Admin. 237, Family Law ................................................................. 3
   Admin. 238, Legal Assistant Internship ............................................. 1-3
   Admin. 239, Special Topics * .......................................................... 1-3
   Admin. 435, Law of Commercial Transactions ...................................... 3
   Admin. 436, Law of Business Associations .......................................... 3
   Admin. 437, Regulatory Law ............................................................. 3
   Admin. 438, Real Estate Law .............................................................. 3
   Acctg. 430, Income Tax and Managerial Decisions .................................. 3
   AJ 220, Criminal Law ................................................................. 3
   AJ 320, Criminal Procedure ............................................................ 3
   Admin. 192, Management Information Systems for Business .................. 3
   Admin. 348, Introduction to Insurance ............................................... 3
   Admin. 360, Concepts of Administration ........................................... 3

   Total hours ............................................................................. 64

C. The 34-hour professional curriculum must include a minimum of 18 hours of legal specialty courses. Legal specialty courses are identified with an asterisk (*). Other courses may qualify as legal specialty courses for students with corporate, governmental or criminal law career objectives.

Associate of Science in Secretarial Training

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition and Speech</td>
<td></td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking or</td>
<td></td>
</tr>
<tr>
<td>Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences</td>
<td></td>
</tr>
<tr>
<td>Econ. 201-202, Principles of Economics I-II</td>
<td>5</td>
</tr>
<tr>
<td>Humanities</td>
<td>6</td>
</tr>
</tbody>
</table>

College of Business Administration 95
Science and Mathematics ................................................. 6
Electives (to be selected from social sciences and humanities courses) 6
Accounting
  Acctg. 110, Basic Accounting I ......................................... 3
  Acctg. 120, Basic Accounting II ........................................ 3
Administration
  Admin. 360, Concepts of Administration or
  Admin. 332, Law and Society ........................................... 3
Business Education
  Bus. Ed. 133, 138, 237, Typewriting .................................. 6
  Bus. Ed. 136, Records Management .................................... 3
  Bus. Ed. 203, Office Procedures and Organization .................... 3
  Bus. Ed. 231, 234, and 240 or 345, Shorthand ........................ 6-9
  Bus. Ed. 241, Secretarial Office Machines ............................ 3
  Bus. Ed. 202, Calculating Machines .................................... 2
  Bus. Ed. 248, Written Business Communications ....................... 3

Total hours ............................................................................. 64-67

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

Course Descriptions

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

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

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

Business courses numbered 700 to 799 are structured primarily for
graduate students, but 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 Infor­
mation section of the Catalog for special conditions under which
seniors may be admitted to graduate courses.)

Accounting

INTRODUCTORY ACCOUNTING

The accounting department offers two options for introductory ac­
to
1. Students may take Acctg. 110 and 120, Basic Accounting I and Basic Accounting II, for a total of 6 hours credit. This series offers practical, applied material, with heavy emphasis placed on problems and simulations. This series meets the needs of students who want basic accounting and bookkeeping skills.

2. Students may take Acctg. 210, which is a single course of 3 hours credit. It is mostly conceptual in approach and is a particularly good selection for students who have had prior exposure to accounting. Acctg. 210 requires sophomore standing for enrollment, whereas Acctg. 110 and 120 are open to all students. Acctg. 210 is required for all students who wish to graduate from the College of Business Administration; however, students who complete Acctg. 110 and 120 will have Acctg. 210 waived for graduation and for any courses for which Acctg. 210 is prerequisite.

**Lower Division Courses**

110. Basic Accounting I. (3). An introductory course to accounting and the keeping of basic records in a business. A practical, applied course with heavy emphasis on problems and simulations. This course meets the needs of students who want basic accounting and bookkeeping skills. B 11 110 0 0502

120. Basic Accounting II. (3). A continuation of Acctg. 110. Prerequisite: Acctg. 110. B 11 120 0 0502

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

220. Introduction to Managerial Accounting. (3). The study of accounting in terms of management’s information requirements. Emphasis is given to the use of accounting in planning and controlling a firm’s activities. Prerequisite: Acctg. 210. B 11 220 0 0502

**Upper Division Courses**


320. Cost Accounting. (3). The study of accounting for manufacturing operations. The processing, analysis and interpretation of cost data for income determination, inventory valuation and internal management use are stressed. Prerequisite: Acctg. 220. B 11 320 0 0502


430. Income Tax and Managerial Decisions. (3). An examination of the federal income tax law relating to business income taxation. Primary emphasis is upon the income tax results of alternative courses of action taken in a business. Prerequisite: Acctg. 210. B 11 430 0 0502


491. Independent Study in Accounting. (1-3). Individual study for credit/no credit only. Prerequisites: 2.75 grade point average in accounting, junior standing and departmental consent. B 11 491 3 0502

**Courses for Graduate/Undergraduate Credit**


College of Business Administration/Accounting 97
550. Accounting Systems and Electronic Data Processing. (3). A study of the content, design and controls of accounting systems, with emphasis on the use of computers for processing financial data. Prerequisites: Acctg. 220 and Admin. 192. B 11 550 0 0502

610. Contemporary Issues in Accounting. (3). An examination of current issues in accounting, with emphasis on the releases of the American Institute of Certified Public Accountants and of other professional organizations and governmental agencies. Prerequisite: Acctg. 460. B 11 610 0 0502

620. Advanced Managerial Accounting. (3). Advanced study of the use of accounting information in financial policy decisions, profit planning and control, quantitative analysis of financial data and capital budgeting. The application of selected quantitative methods in accounting is included. Prerequisite: Acctg. 220. B 11 620 0 0502

630. Advanced Income Tax. (3). A study of the federal income tax law and its relationship to corporations, partnerships, and estates and trusts. The course is designed primarily for students who wish to work with income tax as part of a career objective. Prerequisite: Acctg. 430. B 11 630 0 0502

640. Principles of Auditing. (3). A study of the auditor’s attest function, with emphasis on auditing standards and procedures, independence, legal responsibilities, codes of ethical conduct, and evaluation of accounting systems and internal control. Prerequisites: Acctg. 460 and 550. B 11 640 0 0502

690. Seminar in Selected Topics. (1-3). Repeatable for credit with departmental consent. B 11 690 9 0502

Courses for Graduate Students Only

800. Financial Accounting. (3). A study of the basic structure of accounting, income determination, asset valuation, liability recognition and accounting for ownership equity. The interpretation and analysis of financial statements are included. Prerequisite: no previous credit in accounting or departmental consent. B 11 800 0 0502

801. Managerial Accounting. (3). An examination of the use of accounting data to analyze management problems. Concepts of cost analysis, return on investment analysis, and operations and capital budgeting are covered. Prerequisite: Acctg. 800 or equivalent. B 11 801 0 0502

810. Accounting Evolution and Social Environment. (3). Study and discussion of accounting concepts from an evolutionary point of view. Emphasis is given to the interrelationship between accounting and socioeconomic factors. Prerequisite: undergraduate emphasis in accounting or instructor’s consent. B 11 810 9 0502

812. Theoretical Foundations of Accounting. (3). A systematic treatment of the basic concepts and methodology of accounting theory and their application to problems of income determination and asset/liability valuation. Prerequisite: undergraduate emphasis in accounting or instructor’s consent. B 11 812 9 0502

820. Advanced Cost Accounting Theory. (3). An advanced study of theoretical concepts underlying cost accounting, with emphasis on the nature of business costs, establishing a conceptual framework for cost and managerial accounting, and selected problem areas in cost determination and analysis. Prerequisite: undergraduate emphasis in accounting or instructor’s consent. B 11 820 9 0502

825. Analytical Methods in Accounting. (3). An examination of applied mathematical models in accounting. Emphasis is placed on the mathematical representation of cost and management accounting models. Prerequisites: Math. 340 and either an undergraduate emphasis in accounting or instructor’s consent. B 11 825 0 0502

830. Seminar in Income Tax Research. (3). A research course emphasizing the utilization of various income tax research materials in the preparation of written reports on tax problems. A review and discussion of current problems in taxation and tax practice are included. Prerequisite: Acctg. 630 or instructor’s consent. B 11 830 9 0502


850. 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. Prerequisite: Acctg. 550 or instructor’s consent. B 11 850 0 0502
891. Directed Study in Accounting. (1-3). Prerequisite: departmental consent. B 11 891 3 0502

895. Research Seminar in Accounting. (3). An advanced seminar offering an opportunity for oral discussion and written reports on matters of current interest in diverse areas of accounting. A major course objective is to develop the student’s ability for independent research and the presentation and defense of findings. Prerequisite: undergraduate emphasis in accounting, including a course in statistics, or instructor’s consent. B 11 895 0 0502

899. Thesis Research. (3). B 11 898 4 0502

Administration

Lower Division Courses

100. Introduction to Business. (3). Introduction to the current issues, concepts and functions of business and its environment. Not open to upper-division students in the College of Business Administration. Students may not receive credit in both Admin. 101G and Admin. 100. B 12 100 0 0501

101G. Introduction to Business. (3). Everyone spends a lifetime dealing with and being influenced by business firms. Whether or not a student ever takes a formal course in business administration, everyone needs some awareness of business in order to more intelligently select a career and to be a better informed consumer. The main goal of this course is to introduce students to current issues, concepts and functions of business and its environment. Students may not receive credit in both Admin. 101G and 100. B 12 101G 0 0501

140. 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, with emphasis given to risks and returns. The student is exposed to a set of tools that can be applied in personal financial management to provide a flexible and relevant framework for future decision making. B 12 140 0 0504

163. Women in Business. (3). Cross-listed as WS 163. Considers women in all phases of business, with an in-depth look at women in management. Examples of specific subject areas include: hiring, promotion and problems unique to women. The primary aim is to make both men and women aware of the role that women now play and their future potential. B 12 163 0 0506

190. Selected Topics. (1-3). Repeatable with departmental consent. B 12 190 3 0501

192. Introduction to Management Information Systems for Business. (3). A study of business information systems for management decision-making and control. Includes coverage of system components, controls and application. Also contains a study of computing systems, basic FORTRAN programming and computerized program packages. Prerequisite: course must be completed no later than the end of the first semester after admittance to the College of Business Administration. B 12 192 0 0701

220. Introduction to Aviation. (3). A history of the aviation industry and its impact on the U.S. economy and on foreign trade. Covers employment opportunities in the field. Representatives from various facets of the aviation industry and of the government will participate. The course also covers aircraft nomenclature and an introduction to the aerodynamics of flight. The course will include dual flight instruction (10 hours) designed to qualify a student pilot for solo flight. B 12 220 0 0506

221. Private Flight, Theory and Lab. (1). A preparation for the FAA private pilot written examination; the student must show evidence of successful completion of this examination before receiving credit for this course. Thus, the course also includes ground instructions (FAA regulations, weather, air and radio navigation, flight safety and emergency procedures) and 30 hours of solo flight required for the Private Pilot Certificate. Grading on Cr/Nc basis only. B 12 221 0 0506

230. Introduction to Paralegalism. (3). 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. B 12 230 0 0501
231. Legal Research and Analysis. (3). An introduction to the tools and techniques of legal research, with emphasis on the basic skills involved in identification and solution of legal problems. Prerequisite: Admin. 230 or departmental consent. B 12 231 0 0501

232. Legal Aspects of Business Organizations. (3). The law of business organizations, with emphasis on 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: Admin. 230 or departmental consent. B 12 232 0 0501

233. Litigation I. (3). An introduction to the civil litigation process, with emphasis on the practice aspects associated with the trial of a civil action. Includes study of the law of torts and the preparation and use of pleadings and other documents involved in the trial of a tort case. Prerequisite: Admin. 231 or departmental consent. B 12 233 0 0501

234. Estate Administration. (3). The law of interstate succession, wills and trusts, with emphasis on the administration of an estate under Kansas law. Includes the preparation of wills, trust instruments and documents related to the probate process. Prerequisite: Admin. 231 or departmental consent. B 12 234 0 0501

235. Law Office Management and Technology. (3). The application of modern concepts of organization, management and systems technology to the law office. Emphasis is placed on the use of systems approaches and the proper use of non-lawyers in the handling of all administrate functions and routine legal matters. Prerequisite: Admin. 230 or departmental consent. B 12 235 0 0501

236. Litigation II. (3). A continuation of Litigation I, with emphasis on the practice aspects relating to appeals in civil actions, including the preparation and use of transcripts, abstracts and briefs. Also covered is the subject of criminal litigation. Prerequisite: Admin. 233 or departmental consent. B 12 236 0 0501

237. Family Law. (3). An introduction to family law, including the role of a lawyer as counselor. Emphasis is placed on the practice aspects related to divorce, separation, custody, support, adoption and guardianship matters. Prerequisite: Admin. 233 or departmental consent. B 12 237 0 0501

238. Legal Assistant Internship. (1-3). Students in the Associate of Science program may elect up to 3 hours credit of internship training in a law office, corporate law department or government agency. Offered for credit/no credit only. Prerequisites: 12 hours of legal specialty courses with a 2.75 grade point average in such courses and internship committee approval. B 12 238 0 0501

239. Special Topics. (1-3). Repeatable with departmental consent. Prerequisite: Admin. 230 or departmental consent. B 12 239 0 0501

Upper Division Courses

300. Marketing. (3). A description and analysis of the U.S. marketing system and an investigation of the factors affecting management of the major policy areas of marketing in the firm. Prerequisite: junior standing. B 12 300 0 0509

330. Business and Society. (3). An examination of the economic, political, social and legal environment in which business operates. Consideration is given to the philosophic foundation of capitalism and how business has interacted with government, consumers and labor over time. Emphasis is placed on the role of business in dealing with various societal problems. Current issues, such as the social responsibility of business, affirmative action, occupational safety and health, environmental protection and the challenge to the legitimacy of the firm are dealt with from the perspective of the decision-making manager. Prerequisite: junior standing. B 12 330 0 0501

332. Law and Society. (3). An analysis of our legal system in operation. The nature and functions of law, legal institutions and processes, and the subject matter of law are included. The role of the legal system in society is examined through the study of such topics as constitutional rights, tort liability, freedom of contract, consumer protection and environmental protection. Prerequisite: junior standing. B 12 332 0 0501

340. Finance. (3). A study of corporate organization, types of securities and obtaining short- and long-term capital. Financial planning and control, forecasting and budgeting are included. Prerequisites: Acctg. 210 and 220 and junior standing. B 12 340 0 0504

348. Introduction to Insurance. (3). A basic study of both property/casualty and life/health insurance. Analysis of risk and
the ways to treat both personal and business loss exposures. Study of the contracts, rate-making and services of the insurance business, as well as the marketing and regulation of both private and governmental insurance. Prerequisite: junior standing. B 12 348 0 0504

350. Introduction to Production Management. (3). Basic concepts for planning and controlling the production of either goods or services. Topics included are: aggregate and process planning, scheduling, quality control and inventory systems. Prerequisites: Acctg. 220, Econ. 231 and Math. 144, or equivalent, and junior standing. B 12 350 0 0506

360. Concepts of Administration. (3). A study of behavioral and traditional concepts that apply to the management of organizations. An analysis of administrators and the environment in which they operate is included. Prerequisite: junior standing. B 12 360 0 0506

370. Quantitative Methods and Research. (3). A combination of quantitative tools of analysis and research methods in business. Elementary research procedures, statistics and modern quantitative methods from the point of view of management's direction, and use of these methods are stressed. Prerequisites: Econ. 231 or 238, and junior standing. B 12 370 0 0503


395. Computer Systems Design. (3). An analysis of computer systems design, including input and output devices, storage media and data representation. Prerequisites: basic FORTRAN or COBOL and junior standing. B 12 395 0 0701

403. Marketing Research. (3). A study of the design of marketing information systems and marketing research procedures. Prerequisites: Admin. 300, Econ. 231 or 238, and junior standing. B 12 403 0 0509

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. In addition, the course 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: Admin. 300 or departmental consent. B 12 404 0 0509

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: Admin. 300 and junior standing. B 12 405 0 0509

410. The Real Estate Process: Development in the City. (3). An introductory course about the decision-making processes for the planning, manufacture, marketing, management and financing of real estate space. A survey of cash flow analysis, city and market analysis, urban environment, governmental controls, urban and land-use economics, and business management. Marketing (brokerage, new homes, rentals) and developmental planning (residential and commercial) are stressed. Practical experience is provided by a feasibility study of a selected urban site. Prerequisite: junior standing or departmental consent. B 12 410 0 0511

420. General Aviation: Management and Marketing. (3). An overview of general aviation and its relations with the total aviation industry, including the worldwide organization of the general aircraft industry, its marketing strategies, its social and environmental impact, and the economics of corporate aircraft utilization. Prerequisites: Admin. 300 and 360. B 12 420 0 0506

421. Airport Planning and Management. (3). The principles and procedures pertaining to the planning of airport facilities, plus an understanding of the techniques of airport management, including airport design, financing of construction, services provided, income rate setting, accounting procedures, personnel and public relations, marketing, and maintenance. Also includes current problems in certification security, safety, land acquisition, zoning and state and federal participation in airport development. Prerequisites: Admin. 300, 340, 350, 360. B 12 421 0 0506

422. Airline and Air Travel Management. (3). The organizational and financial structure of airline companies, their operating policies, marketing policies, equipment selection, personnel and public relations, and a review of the pertinent federal and international regulations. It covers both air cargo and passenger operations. It also contains a section on the organization and operation of air travel agencies and their relations with airlines. Prerequisites: Admin. 300, 340, 350, 360. B 12 422 0 0506
435. Law of Commercial Transactions. (3). Law of contracts, bailments, sales, commercial paper and secured transactions. This course centers on the Uniform Commercial Code. Prerequisite: junior standing. B 12 435 0 0501

436. Law of Business Associations. (3). Law of agency, partnerships and corporations. This course considers the organizational and relational aspects of both small, closely held businesses and large corporate enterprises. Prerequisite: junior standing. B 12 436 0 0501

437. Regulatory Law. (3). An introduction to the realm of regulatory law and its business context. Considers the legal principles common to most regulatory agencies. Topics considered include trade regulation, occupational health and safety, product safety and environmental law. Prerequisite: junior standing. B 12 437 0 0501

438. Real Estate Law. (3). A basic course concerning property rights and interests in land. Considers estates in land, the landlord-tenant relationship and real estate transactions (including conveyancing, mortgages and title practice). Also considers private and governmental control of land use through easements, covenants, nuisance law, zoning and eminent domain. Prerequisite: junior standing. B 12 438 0 0501

444. Contemporary Issues in Banking. (3). A survey of contemporary issues facing the U. S. commercial banking system. Course content varies according to the timeliness of various issues. The course is not only for those planning a career in banking but for anyone interested in current trends and issues in banking. Prerequisite: Admin. 340. B 12 444 0 0504

460. Small Business Management. (3). An application of material learned in the classroom to real situations. The first quarter of the course intensively reviews the functional areas of a firm; the social, economic and legal environments; and the development of company objectives. The students then assume the role of consultants or problem solvers for a specific firm. Students work closely with faculty members to define problems and recommendations and to develop plans for implementing the solutions to their firm's problems. Prerequisites: Admin. 300, 340, 350, 360 and senior standing. B 12 460 0 0506

462. Leadership and Motivation. (3). Cross-listed as Geron. 462. A study of theories of human motivation and adaptation of these theories to programs in organizations. Concepts of authority and delegation are probed, and leadership styles are analyzed. Prerequisites: Admin. 360, or concurrent enrollment, and junior standing. B 12 462 0 0506

464. Organizational Communication. (3). An examination of the design of organizational communication systems. An introduction of communication models and the analysis of the interpersonal communication process are included. Prerequisites: Admin. 360, or concurrent enrollment, and junior standing. B 12 464 0 0506

466. Personnel Management. (3). An analysis of the functions of personnel management, including selection procedures, evaluation of personnel, training, motivation, job evaluation, discipline and personnel research. Prerequisites: Admin. 360, or concurrent enrollment, and junior standing. B 12 466 0 0515

475. Introduction to Operations Research in Business. (3). Introduction to quantitative models that are used in business as aids to the decision-making process. Topics include linear programming, integer programming, inventory models and waiting-line models. Prerequisites: Acctg. 220, Econ. 231 and Math. 144, or equivalent, and junior standing. B 12 475 0 0507

491. Independent Study. (1-5). Offered for credit/no credit only. Closed to graduate credit. Prerequisites: junior standing and 2.75 grade point average in administration. B 12 491 3 0501

492. Internship in Administration. (1-3). Offered for credit/no credit only. Prerequisites: junior standing, 2.75 grade point average in administration and departmental consent. B 12 492 3 0501

Courses for Graduate/Undergraduate Credit

561. Introduction to International Economics and Business. (3). Cross-listed as Econ. 672. A survey of the economic foundations of international trade and investment. After a study of international trade, theory and policy (the international economy), it explores the operations of the multinational firm within that environment. Prerequisites: Econ. 202 and junior standing. B 12 561 0 0513

601. International Marketing. (3). Problems and procedures of marketing in foreign countries. The effects of foreign cultures and marketing systems on the design of marketing programs are included.
604. Distribution Management. (3). A study of all areas involved with the distribution of a firm's products or services. These areas focus on such issues as the development of a firm's marketing channels and its relationships with wholesalers and retailers, as well as the management of the firm's storage facilities, inventory control, procedures and shipping facilities. Prerequisites: Admin. 300 and junior standing. B 12 604 0 0509

606. Product and Price Policies. (3). An examination of the issues involved with product development, planning of product services, branding and packaging. Price policies focus on such aspects as the establishment of a firm's basic price strategies, price alterations, credit policies and transport and handling terms. Prerequisites: Admin. 300 and junior standing. B 12 606 0 0509

607. Promotion Management. (3). An analysis of all issues involved with the promotion of an organization and its products or services. These promotion issues deal with the development of advertising campaigns, management of the personal sales force, development of special promotional activities and management of public relations. Prerequisites: Admin. 300 and junior standing. B 12 607 0 0509

608. Selling and Sales Force Management. (3). An analysis of current behavioral concepts of personal selling and the problems and policies involved in managing a sales force. Prerequisites: Admin. 300 and junior standing. B 12 608 0 0509

609. Marketing Programs. (3). A study of all the aspects of the marketing mix that are integrated to make an effective and coordinated marketing program. Prerequisites: Admin. 300, 3 additional hours of marketing and junior standing. B 12 609 0 0509

611. Real Estate Finance: Risk Management in Real Estate. (3). A study from the lender's viewpoint of the mechanisms of financing residential and income-producing property. The course covers loan contracts, mortgage law, mortgage risk analysis, types of lenders, role of governmental agencies, new types of financing and the lessening dichotomy between loan and equity positions. Prerequisite: Admin. 410 or departmental consent B 12 611 0 0511

614. Real Estate Appraisal: Valuation and Feasibility Analysis. (3). Economic theories of value and practices recommended by the professional appraisal societies. Equivalent to the first two certification courses required for designation (MAI or SRA). Appraisal of residential and income-producing properties. Prerequisite: Admin. 410 or departmental consent. B 12 614 0 0511

618. Real Estate Equity Investment and Taxation. (3). The investment strategy and financial analysis of investing in real estate fit into the context of the physical property, leverage, form of ownership, taxation, management, and the mortgage and realty transactions. A review of literature, tax law study and the use of case studies emphasize cash flow analysis, yield and risk projections for sole proprietorships, general and limited partnerships, trusts, and corporate real estate enterprises. Case study presentations involve apartments, offices, shopping centers and commercial developments. The issues include value versus cash flow, sale versus exchange, yield versus risk, and new versus existing development. Prerequisite: Admin. 410 or departmental consent. B 12 618 0 0511

619. Residential Marketing, Management and Development. (3). Development and marketing of residential real estate. Theory and practice in the institutional setting of government policies of control and assistance. Includes economic principles of real estate supply and demand, urban and neighborhood market analysis, location theory of land uses, land-use succession, forecasting real estate activities, brokerage administration, settlement procedures, property management, and public policy devices relative to land-use decisions. Practical experience is gained through a neighborhood analysis or subdivision design problem. Prerequisite: Admin. 410 or departmental consent. B 12 619 0 0511

640. Financial Management. (3). An exploration of the problems and operations for which the financial officer is responsible, emphasizing controversial aspects of financial analysis. Prerequisites: Admin. 340, 6 hours of accounting or departmental consent, and junior standing. B 12 640 0 0504

641. Investments. (3). An analysis of investment risks, financial information and industry characteristics. Corporate, government, municipal and financial institution securities and other investment types are examined. Personal portfolio construction, supervision and management are presented. Prerequisites: Admin. 340 and junior standing. B 12 641 0 0505
643. Capital Markets and Financial Institutions. (3). An introduction to the capital markets system. The management and operations of financial institutions are studied. Each major type of financial institution is viewed in the context of its competitive environment with respect to both asset and liability management. Prerequisites: Admin. 340 and junior standing. B 12 643 0 0504

644. Commercial Bank Management. (3). A study of bank asset and liability management. The internal organization of commercial banks, current problems and recent innovations in commercial banking are also explored. Prerequisites: Admin. 643 and junior standing. B 12 644 0 0504

645. Security Analysis and Valuation. (3). Comprehensive study of methods of analyzing major types of securities. Market behavior analysis is also made. The formulation of investment objectives, the design of portfolios for classes of institutional and individual investors, and portfolio theory are explored. Prerequisites: Admin. 641 and junior standing. B 12 645 0 0505

648. International Finance. (3). Cross-listed as Econ. 674. The study of foreign exchange, balance of payments, the international monetary system and the world's money and capital markets, and their relationships with the financial operations of multinational firms. Also, relevant aspects of international financial management are explored through a series of case studies. Prerequisites: Admin. 340, Econ. 203 and junior standing. B 12 648 0 0513

650. Problems and Cases in Production Management. (3). Analysis and resolution of a variety of problems encountered in the production of either goods or services. Through the use of cases and other methods, the course integrates the concepts and models presented in Admin. 350 and 475. Prerequisites: Admin. 350 and 475. B 12 650 0 0506

659. Seminar in Production Management. (3). Topics that may be included are: (1) current issues in production and operations management; (2) material logistics and control; and (3) diagnostic analysis of operations. Repeatable for credit with departmental consent. Prerequisites: Admin. 350, 475, and either Admin. 650 or consent. B 12 659 0 0506

663. Organizational Interactions. (3). A study of interpersonal intragorganizational and interorganizational interactions. Prerequisites: Admin. 360, or concurrent enrollment, and junior standing. B 12 663 0 0506

664. Labor Relations. (3). A course designed to present the philosophy underlying labor legislation and the function of collective bargaining in labor-management relationships. Prerequisite: junior standing. B 12 664 0 0516

665. Organizational Development. (3). Planned organizational change. Emphasis is upon team building in organizations. Individual, group and structural developments are included. Prerequisites: Admin. 360 or concurrent enrollment, and junior standing. B 12 665 0 0506

666. Selection, Training and Placement. (3). Analysis of advanced programs of employee selection, training and placement. Testing, interviewing, counseling, appraisal, job analysis and job design are explored. Prerequisites: Admin. 360 or concurrent enrollment, and junior standing. B 12 666 0 0515

667. Organizational Structure and Design. (3). An introduction and exploration of the theories pertinent to the study of organizational subsystem structure and design. The interrelationships of organizational goals, decision making, environment, technology, climate, innovation and organizational structure/design are analyzed utilizing a systems approach. Additional topics include formal versus informal structure, differentiation, integration and matrix organizations. Prerequisite: Admin. 360. B 12 667 0 0506

668. Entrepreneurship. (3). Designed to offer students the opportunity to study the factors, variables and conditions involved in the initiation of new business ventures. Prerequisites: junior standing with course background in at least two of the three functional areas of marketing, finance and production: Admin. 300, 340 and 350. B 12 668 0 0506

675. Intermediate Operations Research in Business. (3). Intermediate-level quantitative models for business. Topics include dynamic and goal programming, material requirements planning, sequencing and routing models, and competition models. Prerequisites: Admin. 350 and 475. B 12 675 0 0507

679. Simulation. (3). An examination of concepts and procedures of simulation. Prerequisites: Admin. 475 and 675. B 12 679 0 0507

680. Decision Making. (3). A study of the theories of decision making, with atten-
tion directed to the factors of creativity, the quest for subjective certainty, rationality, cognitive inhibitors, problem identification, evaluation of alternatives, applications of quantitative methods to decision processes and decision implementation. Prerequisites: Admin. 360 or concurrent enrollment, and junior standing. B 12 680 0 0506

681. Administrative Policy. (4). An integration of all aspects of business administration in the analysis of and making decisions for policy development. Prerequisites: Admin. 300, 340, 350, or departmental consent, and junior standing. B 12 681 0 0506

683. Comparative Institutional Management. (3). An examination of management problems between differing types of institutions—e.g., hospitals, nursing homes, religious organizations, governmental organizations, and educational organizations. Emphasis is given to such topics as organizational structure and design, policy development, evaluating effectiveness, setting objectives, financial arrangements, reporting systems and methods of dealing with the environment. Prerequisites: Admin. 360, or concurrent enrollment, and junior standing. B 12 683 0 0506

684. Health Administration Policy. (3). An integration of all aspects of health administration in the analysis of and making decisions for policy development. Prerequisites: a basic course in economics, accounting, finance and management or administration, and junior standing. B 12 684 0 0506

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: junior standing. B 12 690 9 0501

732. Law and Society. (3). An analysis of the U. S. legal system in operation. Topics include legal philosophy and the ends of law, the basic characteristics and subject matter of law, and legal reasoning and processes. The role of the legal system in society is examined through the study of the concept of freedom and contract. Prerequisite: departmental consent. B 12 732 0 0501

750. Workshop in Administration. (1-4). Prerequisite: junior standing. B 12 750 9 0501

Courses for Graduate Students Only

800. Marketing Systems. (3). An intensive analytical introduction to the combination of institutions that comprise the overall marketing system. The marketing function as a major subsystem within the individual business firm is also presented. B 12 800 0 0509

801. Marketing Management. (3). The development of marketing programs or mixes to obtain sales and profits under a variety of operating conditions. The management of specific problem areas, such as product, channels, promotion and pricing, is stressed. Prerequisite: Admin. 800 or equivalent. B 12 801 0 0509

802. Marketing Strategy. (3). Integration of long-range marketing and corporate policies. Budgetary control and the evaluation of the effectiveness of marketing systems are included. The organization of the marketing department and its relation to the total organization are also probed. Prerequisite: Admin. 801 or departmental consent. B 12 802 0 0509

803. Marketing Analysis. (3). The application of the scientific method to the solution of marketing problems. Prerequisite: Admin. 800 or equivalent. B 12 803 0 0509

805. Consumer Decision Processes. (3). An examination of different aspects of the behavior of consumers and of the factors that help explain their behavior. An analysis of current concepts and models is included. Prerequisite: Admin. 800 or departmental consent. B 12 805 0 0509

809. Marketing Theory. (3). A utilization of marketing research findings to analyze current marketing theory. Conceptual and theoretical frameworks for marketing analysis are developed. Prerequisite: 6 hours of marketing, including Admin. 801. B 12 809 0 0509

810. Real Estate Feasibility Analysis. (3). The theory and practice of analyzing the feasibility of a new or redevelopment of a real estate project. A selected urban site or real estate problem will be used to learn the process and analytical techniques available to complete a feasibility study. Community issues that affect real estate will be discussed along with the decision-making process of corporate and public real estate management. Not open to students with credit in Admin. 410. B 12 810 0 0511

820. Seminar in International Trade and Finance. (3). Cross-listed as Econ. 870. A seminar in theoretical concepts and contemporary selected issues of international economics and finance. Selected issues would include such areas as foreign exchange markets, the Eurodollar market,
Arab oil dollars in the international monetary system, transference of inflation between countries, developments in the common markets, etc. Prerequisite: Admin. 648 or Econ. 674 or instructor's consent. B 12 820 9 0513

830. Socio-Legal Environment of Business. (3). An examination of the economic, political, social and legal environment in which business operates. Consideration is given to the philosophic foundation of capitalism and how business has interacted with government, consumers and labor over time. Emphasis is placed on the role of business in dealing with various societal problems. Current issues, such as the social responsibility of business, affirmative action, occupational safety and health, environmental protection and the challenge to the legitimacy of the firm are dealt with from the perspective of the decision-making manager. B 12 830 0 0501

836. International Business Administration. (3). An introduction to international business administration with particular attention given to the development of multinational business strategies in light of the diverse economic, political, social and cultural dimensions of the environment that exist in both developed and developing areas of the world. B 12 836 0 0513

840. Financial Systems. (3). An intensive analytical introduction to finance from the management viewpoint, including the theory of financial management, the financial institutional structure and an analysis of a variety of practical problems of business finance. Prerequisite: departmental consent. B 12 840 0 0504

841. Financial Management. (3). An integrated treatment of basic business finance, financial management, financial statement analysis and financial institutions. Prerequisite: departmental consent. B 12 841 0 0504

842. Structure and Policies of Financial Institutions. (3). The development, management and impact of policies of financial institutions, including planning, measuring and achieving financial goals. Prerequisite: Admin. 841 or departmental consent. B 12 842 0 0504


845. Security Analysis. (3). An analysis and valuation of investment securities issued by corporations and governmental agencies. Prerequisite: Admin. 641 or departmental consent. B 12 845 0 0505

846. Capital Budgeting. (3). A study of the organization and operation of the capital budgeting system. Problems in partial decentralization and in comparability of estimates of funds flow are explored. Contemporary methods of treating uncertainties and constraints and the application of programming techniques are included. The determination of appropriate discount rates is also explained. Prerequisite: departmental consent. B 12 846 0 0504

850. Introduction to Production and Operations Management. (3). Concepts for planning and controlling the production of either goods or services. Topics include: linear programming, scheduling, quality control, inventory models and waiting-line models. Not open to students with credit in Admin. 350. Prerequisites: calculus, statistics and accounting. B 12 850 0 0506
851. Intermediate Production Management. (3). Theory of productive systems, decision making under uncertainty and advanced technological forecasting methods for business and industry. Application of forecasting methods and some operations research models to real-world productive systems. Prerequisite: Admin. 850 or both Admin. 350 and 475. B 12 851 0 0506

860. Management of Organizations. (3). An introduction to management and organizational theory. Includes such topics as: classical and contemporary management theory, human relations, group dynamics, motivation, communication, organizational structure and design, and behavioral control. B 12 860 0 0506

862. Organizational Behavior. (3). A study in individual behavior in an organizational setting. Human variables in business are analyzed from the standpoint of job placement, performance and individual development. Topics covered include behavioral development, motivation and learning in human relations. Prerequisite: Admin. 860 or departmental consent. B 12 862 0 0506

865. Communication. (3). An analysis of communication models with emphasis on their applications to communication problems in organizations. Social-psychological processes underlying persuasion in interpersonal relations and through the mass media are explored. Communication systems and techniques within formal organizations are analyzed critically. Prerequisite: Admin. 860 or departmental consent. B 12 865 0 0506

866. Organizational Conflict and Stress. (3). Studies in flexibility and rigidity. A review is made of research and thinking in the areas of innovation, conflict, resolution, stress and anxiety as relevant to organizational structures and behaviors. Prerequisite: Admin. 860 or departmental consent. B 12 866 0 0506

867. Seminar in Personnel Administration. (3). An in-depth study and analysis of several critical and/or major current problems in personnel and a review of significant literature. The direction of the course could be determined by the interests of the class. Prerequisite: Admin. 466. B 12 867 0 0515

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: Admin. 466 or instructor’s consent. B 12 868 0 0515

869. Research in Behavioral Science. (3). An analysis of some of the concepts and tools in behavioral science that are relevant to research in organizations. One or two areas such as motivation, cognitive processes, attitudes and values, etc., may be analyzed in depth. Prerequisite: Admin. 862 or departmental consent. B 12 869 0 0506

870. Statistical Methods for Business. (3). An examination of statistical methodology applicable to business decision making. Included are probability theory, point and interval estimation, hypothesis testing, regression, and analysis of variance. Not open to students with credit in Econ. 231. Prerequisite: calculus. B 12 870 0 0503

871. Multivariate Statistical Methods. (3). A study of selected multivariate statistical methods used in support of modern decision making. Topics included are multivariate hypothesis testing, multiple regression, correlation, analysis of variance and covariance, and discriminant analysis. Prerequisite: Admin. 870 or Econ. 231. B 12 871 0 0503

872. Advanced Statistical Analysis. (3). Topics such as sample design, chi square, variance analysis, and correlation and regression analysis are examined from con-
ceptual and decision-making points of view. Prerequisite: Admin. 871. B 12 872 0 0503

874. Computer Systems and Procedures. (3). A study of the planning, development and operation of business computer systems. Emphasis is given to information handling and development of real-time management information systems. Computer applications in the areas of marketing, production and finance are also studied. Consideration is given to human factors in man/machine communication systems. Prerequisite: FORTRAN and/or COBOL. B 12 874 0 0705

875. Management Science. (3). A course providing quantitative bases from which the student may develop analytical abilities for use as a decision maker. Areas of study include mathematical programming, game theory, forecasting, queuing theory and simulation. Not open to students with credit in Admin. 675. Prerequisites: Admin. 850 and 874. B 12 875 0 0507

876. Advanced Topics in Management Science. (3). An in-depth examination of selected management science models. To be included are advanced inventory and quality control topics, goal programming and other current decision-making techniques. Prerequisites: either Admin. 475 and 675, or Admin. 875. B 12 876 0 0507

880. Analysis of Behavioral Systems. (3). Concentration on theoretical and methodological contributions to the understanding of behavioral systems. Models and research methodology in individual behavior, small-group processes and organizations are critically analyzed. Prerequisite: departmental consent. B 12 880 0 0506

881. The Philosophy of Management. (3). Concentrated readings and research to define the relationship of management leadership in our society. Prerequisite: departmental consent. B 12 881 0 0506

885. Business Policies. (3). An analysis of business problems from the perspective of top management. Prerequisite: departmental consent. B 12 885 0 0506

886. Seminar in Research Methodology. (3). A study of concepts and procedures in the design and performance of research. B 12 886 0 0501

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 12 890 9 0501

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 12 891 3 0501

893. Special Project in Administration. (1-4). A special project including original research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration candidates. B 12 893 2 0501

895-896. Thesis. (2-2). B 12 895 4 0501; B 12 896 4 0501

Business Education

In addition to following the major in business teacher education, emphasis in secretarial science and the Associate of Science program, described at the beginning of this section of the Catalog, students may minor in business education. Students planning to teach business education as a second subject in secondary schools are required to take 24 hours of business courses, including Acctg. 110 and 120; Econ. 201; Bus. Ed. 138 and 237; and 9 hours from accounting, administration, economics or shorthand, of which one course must be upper division.

Lower Division Courses

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

133. Beginning Typewriting. (3). A survey of the correct fingering and mechanical operation of a typewriter and an introduction to business forms. B 14 133 1 0514
138. Advanced Typewriting. (3). A course stressing business, letter and manuscript forms; tabulation; and timed production problems. Prerequisite: Bus. Ed. 133, or one year of high school typewriting or departmental consent. B 14 138 5 0514

201. Secretarial Office Machines. (3). A course designed to familiarize students with office machines, including transcription machines, executive typewriters, duplicating machines, copying machines and other secretarial office equipment. Prerequisite: Bus. Ed. 237 or departmental consent. B 14 201 5 0514

202. Calculating Machines. (2). A course designed to familiarize students with adding machines and printing and electronic calculators. Prerequisite: departmental consent. B 14 202 1 0514

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

231. Elementary Shorthand. (3). A study of the theory of Gregg Diamond Jubilee Shorthand. Prerequisite: Bus. Ed. 133, or 1 unit of high school typewriting or departmental consent. B 14 231 5 0514

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

237. Technical Typewriting. (3). A study of letter forms used in business, difficult tabulating projects, legal typewriting, medical typewriting and advanced timed production problems. Emphasis is placed on accuracy at a high rate of speed to meet office standards. Prerequisite: Bus. Ed. 138, or 2 units secretarial training in high school or departmental consent. B 14 237 5 0514

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


250. Legal Practice. (4). A survey of substantive legal subjects, together with the forms, checklists, etc., involved in legal practice. Topics covered include real estate, civil litigation, estate planning and probate administration, business organization, domestic relations and criminal law. Prerequisites: Bus. Ed. 237 and 203, or departmental consent. B 14 250 0 0514

Upper Division Courses

300. Office Practice. (3). An exploration into advanced office duties, techniques and procedures. Also included are various methods of teaching office machines, the functional use of selected machines and a survey of available equipment. Prerequisites: business education major or minor with credit in Bus. Ed. 237 or departmental consent, and junior standing. B 14 300 5 0514

320. Automated Word Processing. (2). This course provides a basic background of the development of automated word processing. Each student will receive individualized instruction on the Magna I memory unit covering basic function of input, revision and playback procedures as well as the more advanced abilities of the Magna I such as thought reorganization and word search. The trainee is encouraged to become efficient and productive in word processing. Evaluation is based on quality and quantity of work done. Special emphasis is placed on mailable copies. Prerequisites: Bus. Ed. 237 and 201, or departmental consent. B 14 320 1 0514

345. Transcription. (3). A course with emphasis on transcribing advanced shorthand notes with speed, accuracy and correct form. Prerequisites: Bus. Ed. 240 with a grade of C or better or departmental consent, and junior standing. B 14 345 5 0514

460. Directed Studies. (1-5). Prerequisites: departmental consent and junior standing. B 14 460 3 0514

Course for Graduate/Undergraduate Credit

750. Workshops in Business Education. (1-4). The selection of one major area of business education for study in terms of methods, materials, research and curricular problems. The instructor is assisted by guest lecturers. Repeatable for credit. Prerequisites: teacher certification or departmental consent, and junior standing. B 14 750 9 0514
Economics

The requirements for an emphasis in economics for a Bachelor of Business Administration are listed under the Bachelor of Business Administration information at the beginning of this section. It should be noted that the courses BA 211 and BA 212 may appear in the course listings as prerequisites to certain courses. These courses have been dropped, but students who have already successfully completed them may use them as prerequisites to certain courses, as indicated in the Catalog.

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

General studies—Econ. 200G
Economic principles and theory—Econ. 102, 201, 202, 203H, 204H, 301, 302, 304, 605, 800, 801, 802, 803, 804
Industrial organization and regulated industries—Econ. 614, 615, 616, 617, 618, 810, 814, 815
History and comparative systems—Econ. 100, 622, 625, 626, 627
Statistics and econometrics—Econ. 231, 631, 831, 836
Monetary theory; money and banking—Econ. 340, 640, 840
Public finance—Econ. 653, 654, 655, 853
Labor, manpower and health economics—Econ. 303, 360, 364, 660, 661, 662, 663, 665, 861
Economic growth and development; international economics—Econ. 671, 672, 674, 870, 871
Urban environmental and regional economics—Econ. 285, 685, 687, 688, 885, 888
Directed study; thesis—Econ. 491, 692, 750, 891, 892, 895, 896.

Lower Division Courses

100. Business History of the United States. (3). Cross-listed as Amer. Stud. 100. A survey of American business evolution from colonial times to the present. Emphasis is placed on types of business structures and the role of the public sector. Not open to upper division students in the College of Business Administration. B 13 100 0 0513

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

200G. What Economics Is All About. (4). An exploration of the tension between the economic interests of individuals and those of the society in which they live. Begins with concept formation, theory construction and testing, and uses this framework to examine the writings of several contemporary political economists to discover how each deals with individual and collective interests. Prerequisite: grade of C or better in Eng. 101. B 13 200G 0 2204
201. Principles of Economics I. (3). (Macroeconomic theory) An introduction to determinants of national income, employment and economic growth. Closed to students with credit in BA 211. B 13 201 0 2204

202. Principles of Economics II. (3). (Microeconomic theory) An introduction to price and distribution analysis. Market structure and performance, contemporary issues and public policy are also included. Closed to students with credit in BA 212. Prerequisite: Econ. 201. B 13 202 0 2204

203H. Honors Principles of Economics. (4). A general survey of economic method, character and scope, and basic microeconomic and macroeconomic principles with applications aimed at helping the student develop an analytic framework for interpreting economic events, trends, institutions and public policies. Included is an analysis of resource use, price and output determination, the level of national income and the general price level, business fluctuations, the monetary and banking system, international trade, economic growth and development. Open only to honors students. B 13 203H 0 2204

204H. 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. B 13 204H 0 2204

231. Introductory Business Statistics. (4). An introduction to statistical inference, estimation and hypothesis testing. Included are measures of location and dispersion, probability, sampling distributions, discrete and continuous probability functions, nonparametric methods, elements of Bayesian decision theory, linear regression and correlation, and time series analysis. Closed to students with credit in Econ. 238 or BA 231. Prerequisite: Math. 111 or 112. B 13 231 0 0503

285. Economics of Environmental Quality. (3). An introduction to the scientific, engineering and economic principles needed for the enhancement of the quality of man's total environment. Also included is a discussion of air and water pollution, solid waste disposal, water resources and conservation. The course introduces various principles of economics, such as marginal analysis, cost/benefit analysis, systems approach and externalities as appropriate. B 13 285 0 2204

299. Women in the Economy. (3). An economic perspective of the role of women in today's economy. Includes patterns of female labor participation and unemployment, occupational segregation, wage differentials and discrimination, female headed families and poverty, economic aspects of marriage and divorce and economics of women's liberation. This course will examine evidence and statistics on women's economic roles and investigate economic factors behind the problems unique to women to better understand those problems and their relations with the problems of the entire economy. Prerequisite: Econ. 202 or instructor's consent. B 13 299 0 0516

Upper Division Courses

301. National Income Analysis. (3). (Macroeconomic theory) Aggregate economic analysis and examination of policies affecting the level of income and employment. Prerequisites: Econ. 202 and junior standing. B 13 301 0 2204

302. Production, Price and Distribution Analysis. (3). (Microeconomic theory) Analysis of production and pricing by firms and industries and the distribution of income to factors of production. Prerequisites: Econ. 202 and junior standing. B 13 302 0 2204

303. Economic Problems of the Aged. (3). Cross-listed as Geron. 303. An examination of the special economic problem areas of health, transportation and income, including social security, retirement planning, fraud and consumer protection, community resources and services, insurance, taxes, nutrition and housing. The course emphasis is on economic principles and on improving the consumer knowledge and management skills of the elderly. Prerequisite: Econ. 202 or departmental consent. B 13 303 0 2204

304. Managerial Economics. (3). An application of microeconomic theory to the solution of business problems. Prerequisites: Econ. 202 or BA 212, one course in calculus, and junior standing. B 13 304 0 0517

340. Money and Banking. (3). A study of money, credit and inflation. The structure and role of the commercial banking and
Federal Reserve systems. The relationship between banks and other financial institutions is included, as is the role of money in determining the level of economic activity and prices. Prerequisites: Econ. 201 and junior standing. B 13 340 0 0504

360. Labor Economics. (3). A survey of labor economics, labor markets, trade unionism and collective bargaining. Wage determination, employment, unemployment and labor legislation are also included. Prerequisites: Econ. 202 or BA 212, and junior standing. B 13 360 0 0516

364. Economic Poverty. (3). An examination of the problem of economic poverty in the United States. The extent of poverty, its causes and the problems created and methods of attacking poverty are probed. Prerequisites: Econ. 201 or BA 211, or instructor’s consent, and junior standing. B 13 364 0 2204

491. Directed Study. (1-3). Individual study of various aspects and problems of economics. Repeatable for credit. For credit/no credit only. Prerequisites: junior standing, departmental consent and 2.75 grade point average in economics. B 13 491 3 2204

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. 202 and junior standing. B 13 605 0 2204


615. Economics of Transportation. (3). A study of economic characteristics of transportation modes, problems and policies. Prerequisites: Econ. 202 and junior standing. B 13 615 0 0510

616. Economics of Air Transportation. (3). A study of economic characteristics of air transportation. Prerequisites: Econ. 202 and junior standing. B 13 616 0 0510

617. Economics of Public Utilities. (3). A study of general economic characteristics and regulation of water, gas, electric, communications and related industries, including atomic power. Prerequisites: Econ. 202 and junior standing. B 13 617 0 0510

618. Urban Transportation. (3). A study of urban transportation theory, practice and problems. Areas to be examined include the history of urban transportation, relationships between transportation and urban development, the urban transportation planning process and public policy toward urban transportation. Economic concepts and theory will be used to assess the effects of urban transportation changes on urban areas and to evaluate various past, present and proposed public policies related to urban transportation. Prerequisite: Econ. 202 or instructor’s consent. B 13 618 0 0510


625. Economic History of Europe. (3). Cross-listed as Hist. 614. An analysis of the development of economic institutions; the rise of capitalism and its influence on overseas expansion, technology, precious metals, politics and war; changes in economic ideologies; and cultural effects of economic change. Prerequisites: Econ. 201 and junior standing. B 13 625 0 2204
626. Origins of the Industrial State. (3). Cross-listed as Hist. 516. U. S. economic development and policy, from the Civil War to the present. Emphasis is on changes in the reputations and influence of businessmen in American society. Prerequisites: Econ. 201 and junior standing. B 13 625 0 2204

627. Economic History of the United States. (3). Cross-listed as Hist. 515. An analysis of the basic factors in economic growth. Agriculture, trade and commerce, industrial development and the changing role of the government in economic activity are explored. Prerequisites: Econ. 201 and junior standing. B 13 627 0 2204

631. Intermediate Business Statistics. (3). A study of the regression model with extensions, analysis of variance models, and other related statistical methods, with emphasis on application to business and economic data. Prerequisites: Econ. 238 or 231 and junior standing. B 13 631 0 0503

640. Monetary Problems and Policy. (3). An analysis of monetary problems and policy. Debt management policies and the structure of interest rates are included. Prerequisites: Econ. 202, 340 and junior standing. B 13 640 0 0504

653. Public Finance. (3). 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. 202 and junior standing. B 13 653 0 2204

654. Fiscal Policy. (3). A study of the economics of government spending and taxation and an analysis of the fiscal role and instruments of government and their effects on the economy. Prerequisites: Econ. 202 and junior standing. B 13 654 0 2204


660. Labor Market and Manpower. (3). An examination of the sources of labor supply and the marketing, placement and utilization of labor. Changing composition and trends in the labor force are included, as are training and retraining programs and public policy toward manpower problems. Prerequisites: Econ. 202 and junior standing. B 13 660 0 0516

661. Collective Bargaining and Wage Determination. (3). An examination of economic and legal aspects of collective bargaining, emphasizing the techniques and procedures used, and the major issues and problems inherent in the bargaining process. The manner in which wages are determined under various institutional relationships is explored. Prerequisites: Econ. 202 and junior standing. B 13 661 0 0516

662. Public Policy Toward Labor. (3). An examination of federal and state legislation, judicial action and administrative practice directed toward controlling or mitigating problems arising from the labor-management relationship. Regulations in the private sector and employment practices in the public sector are studied. Prerequisites: Econ. 202 and junior standing. B 13 662 0 0516

663. Economic Insecurity. (3). Cross-listed as Geron. 663. Personal economic insecurity, such as unemployment, old age, health care, disablement and erratic economic fluctuations. Costs and benefits of government action to aid in meeting such insecurities are included. Prerequisites: Econ. 202 or instructor's consent, and junior standing. B 13 663 0 2204

665. Health Economics. (3). Cross-listed as HAE 504. An analysis of health care systems in the United States, including the demand for and supply of health care services, the quantity, quality and pricing of health services, the need for insurance; and the role of government in the health sector. Prerequisites: Econ. 202 and junior standing. B 13 665 0 0516

671. Economic Growth and Development. (3). Survey of leading growth theories, with an emphasis on the processes of development and capital formation in developed and underdeveloped economies. Determinants of real income, resource allocation, investment criteria, balance of payment problems, national policies and related topics are analyzed within this framework. Prerequisite: Econ. 202 and junior standing. B 13 671 0 2204

672. Introduction to International Economics and Business. (3). Cross-listed as Admin. 561. A survey of the economic foundations of international trade and investment. After a study of international trade theory and policy (the international economy), it explores the operations of the multinational firm within that environment. Prerequisites: Econ. 202 and junior standing. B 13 672 0 0513

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674. International Finance. (3). Cross-listed as Admin. 648. The study of foreign exchange, balance of payments, the international monetary system and the world’s money and capital markets, and their relationships with the financial operations of multinational firms. Also, relevant aspects of international financial management are explored through a series of case studies. Prerequisites: Admin. 340, Econ. 202 and junior standing. B 13 674 0 0513

680. Economics of Energy and Natural Resources. (3). A study of the business and economic aspects of energy and natural resources problems. Includes energy demand and supply, the price of energy, energy industry characteristics and government regulations, conservation, environmental problems and public policies. Statistical data are extensively used to evaluate the past and present energy and natural resources situations and the trends for the future. Simple economic concepts and theories are employed to interpret the facts and to assess the impacts of various public policies on the use of energy and natural resources. Prerequisites: Econ. 202 or instructor’s consent. B 13 680 0 2204

685. Natural Resources and Regional Planning. (3). A study of the approaches to the optimal allocation of natural resources. Criteria for policy decisions and the evaluation of the social and economic benefits and costs of the use of resources through time are examined. Prerequisites: Econ. 202 and junior standing. B 13 685 0 2204

687. Introduction of Urban Affairs. (3). Cross-listed as Pol. Sci. 687 and Soc. 687. An introduction to the study of the metropolis as a social, political and economic system. Prerequisites: Econ. 202, a course in sociology or political science, and junior standing, or instructor’s consent. B 13 687 0 2214

688. Urban Economics. (3). A survey of the economic structure and problems of urban areas on both the microeconomic and macroeconomic levels. The application of regional economic analysis in the study of urban areas as economic regions is stressed. Prerequisites: Econ. 201 and 202, or Econ. 500, and junior standing. B 13 688 0 2214

692. Group Studies in Economics. (1-3). Repeatable for credit with departmental consent. Prerequisite: junior standing. B 13 692 9 2204

750. Workshop in Economics. (1-4). Prerequisite: junior standing. B 13 750 0 2204

Courses for Graduate Students Only

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

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

802. Microeconomic Analysis. (3). An intensive analysis of contemporary literature and problems in the areas of production, pricing and distribution. Prerequisites: Econ. 302 or 804, and one course in calculus. B 13 802 0 2204

803. Analysis of Business Conditions. (3). A study of economic forecasting and its relationship to macroeconomic analysis. Not for graduate credit in the MA program in economics. Prerequisites: Econ. 500 or equivalent and one semester of introductory statistics. B 13 803 0 2204

804. Managerial Economics. (3). A survey of theoretical and analytical tools of economics that are useful in decision making by managers. Not for graduate credit in the MA program in economics. Prerequisites: Econ. 202 or 800 and one course in calculus. B 13 804 0 0517

810. Business and Public Policy. (3). The study of the effects of government regulation, monetary and fiscal policy on business, as well as the social responsibility of business. Not for graduate credit in the MA program in economics. Prerequisite: departmental consent. B 13 810 0 2204


815. Seminar in the Regulated Industries. (3). An intensive analysis of the economic characteristics of the regulated industries (i.e., transportation and public utilities), with emphasis on problems, issues and public policy in these industries. Prerequisite: one of Econ. 302, 615, 616, 617 or 804. B 13 815 9 0510
831. Introduction to Econometrics. (3). Analysis of time series, multiple regression, multiple and partial correlation, analysis of variance and introduction to econometric techniques. Prerequisites: Econ. 631 and one course in calculus. B 13 831 9 0503

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

840. Seminar in Monetary Theory. (3). An examination of neoclassical and contemporary monetary theories. An analysis and an evaluation of current monetary problems are included. Repeatable for credit with departmental consent. Prerequisites: Econ. 202 and 340. B 13 840 9 0504

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

861. Seminar in Contemporary Labor Issues. (3). An intensive analysis of contemporary problems in the field of labor. The specific nature of the problems are determined by the interest of those enrolled in the course. Repeatable for credit with departmental consent. Prerequisite: Econ. 360. B 13 861 9 0516

870. Seminar in International Trade and Finance. (3). Cross-listed as Admin. 820. A seminar in theoretical concepts and contemporary selected issues of international economics and finance. Selected issues include such areas as foreign exchange markets, the Eurodollar market, Arab oil dollars in the international monetary system, transference of inflation between countries, developments in the common markets, etc. Prerequisite: Econ. 674 or Admin. 648, or instructor's consent. B 13 870 9 0513

871. Seminar in Economic Growth and Development. (3). A study of theories of economic growth and development. Selected topics relating to economic growth and development, such as national planning, allocation of resources, selection and evaluation of investment projects, and other current issues, are included. Prerequisite: Econ. 671, 301 or 302. B 13 871 9 2204

885. Seminar in Environmental Quality Control. (3). Examination of actual problems, projects and/or current approaches to environmental quality control. A critical look at current happenings and trends is taken. Prerequisite: Econ. 685. B 13 885 9 2204

888. Seminar in Urban Economics. (3). An analysis of the determinants of city structure, the location of economic activity and land use. Current urban problems such as crime, pollution, zoning, housing and optimal city size are discussed with specific reference to current empirical research. Prerequisites: Econ. 302 or 688 and junior standing. B 13 888 9 2214

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

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

895. Thesis Research. (2). B 13 895 4 2204

896. Thesis. (2). B 13 896 4 2204
Lucile Blanch, Young Student
Providing professional programs appropriate for the development of broadly educated and competent school teachers, administrators, supervisors and counselors is the principal purpose of the College of Education. The college’s faculty provides leadership in professional service and research designed to contribute to the improvement of both schools and teacher education at local, state and national levels.

Curricula listed in the following sections are organized to give students an opportunity for systematic study. Programs, based on the premise that students need to understand themselves and their world for professional growth, are arranged to permit the development of (1) an understanding of the characteristics of a democratic society and education’s place within it, (2) a philosophy of education consistent with living within society, (3) an adequate professional preparation and the opportunity to relate content to the problems of living, (4) a knowledge of human growth and development and (5) skills in the application of principles of human learning and adjustment.

Accreditation and Certification

The College of Education is accredited by all appropriate agencies that accredit Wichita State. (See the Accreditation and Associations section of the Catalog.) Since it is accredited by the State Board of Education, the college can recommend to the board that appropriate teacher’s certificates be awarded without examination.

Degrees Offered

UNDERGRADUATE PROGRAMS

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

A student may obtain a second bachelor’s degree in the College of Education by being admitted to the College of Education; completing a minimum of 30 hours in a planned program in addition to the work required for the first bachelor’s degree; and satisfying the requirements for graduation from the College of Education.
GRADUATE PROGRAMS

Course sequences through the departments within the Graduate School lead to the Master of Education (MEd) or Master of Science Education (MSE). Students wishing advanced coursework in counseling, school psychology and consultation may fulfill program requirements leading to the Specialist in Education (EdS) in Student Personnel and Guidance. Students may also earn graduate credit toward the specialist's degree in educational administration and supervision or the doctoral degree in educational administration through the doctoral transfer program with the University of Kansas in educational administration. The Master of Arts (MA) and Doctor of Philosophy (PhD) can be earned through the Department of Logopedics.

The graduate offerings include programs designed to help students meet the requirements for certification as elementary principals, secondary principals, supervisory personnel, educational administrators, school counselors, early childhood teachers, special education teachers, reading specialists, school psychologists, speech and language pathologists and audiologists, and other specialists. For specific graduate programs, see the Wichita State University Graduate School Bulletin.

Bureau of Educational Placement

Through the Bureau of Educational Placement, Wichita State provides job placement assistance for students and alumni desiring positions with schools and other educational agencies. A total of 15 semester hours and an overall grade average of 2.00 are required to apply. A registration fee of $2.00 for currently enrolled students and $5.00 for alumni is assessed. Application forms are obtainable from the Bureau of Educational Placement, Corbin Education Center.

Policies

ADMISSION

Before being admitted to the College of Education, students must fulfill the general entrance requirements of the University. To transfer to the College of Education, students must complete 24 hours, achieve a 2.00 grade point average, and have a grade of C or higher in Eng. 101 or 102, or a statement of proficiency from the Department of English.

PROBATION AND DISMISSAL

Students are expected to make satisfactory progress in their studies. Students who fail to do so may be placed on probation at any time and may ultimately be dismissed from Wichita State. Students in the College of Education are formally placed on probation at the conclusion of any semester in which their overall grade point average falls
below 2.00. They will be continued on probation at the end of any semester in which they have been on probation if their grade point average for the semester is at least 2.00, and they will remain on probation until they achieve a cumulative grade point average of 2.00. Students who fail to earn at least a 2.00 for any semester on probation may be dismissed for poor scholarship.

Students may not be academically dismissed at the end of a semester unless they began that semester on academic probation. Also, students may in no case be academically dismissed from Wichita State before they have attempted a total of at least 12 semester hours at the University after being placed on probation.

Students dismissed for poor scholarship may enroll only with the special permission of the college's Admissions, Exceptions and Retention Committee.

The grade standards for the teacher education program are different from those of the college. Students must have a 2.25 overall grade point average and a 2.50 major grade point average to be admitted to the student teaching semester.

TEACHER EDUCATION PROGRAM ADMISSION

Admission to the College of Education is tentative and does not mean that a student is accepted into one of the teacher education programs. To be admitted as a candidate for the state teacher's certificate, students must apply and be accepted through the Admissions, Exceptions and Retention Committee of the College of Education. Application is made by attending the Introduction to Professional Education Lab. During the sessions, students receive information concerning the required health examination, the English and mathematics competency examinations and the audiovisual equipment use check. A student's eligibility for enrolling in courses other than the Introduction to Professional Education course is determined by admission to the teacher education program.

BACCALAUREATE REQUIREMENTS

Several sets of graduation requirements apply to undergraduates in the College of Education seeking a Bachelor of Arts (BA) in education or the institution's recommendation for a teaching certificate. Students should carefully study the requirements for their particular area of study.

Students enrolled in the College of Education must maintain at least a 2.00 grade point average. Admission to the student teaching semester requires an overall grade point average of 2.25 and a 2.50 average in the major field as well as a grade of C or higher in Speech 111 or 112, or an equivalent, and the recommendation of the teacher education representative of the student's major department. A grade of C or higher in student teaching is necessary to receive a recommendation for a teaching certificate.
Requirements for admission to student teaching for logopedics students are listed in the department’s program description later in this section.

Prospective teachers in specialized fields of art and music are subject to certain departmental requirements and the general and professional education requirements listed under secondary education. (Students planning to teach fine arts should consult the College of Fine Arts section of the Catalog.)

The fields of special education and school psychology are offered on the graduate level, but some course work may be completed at the undergraduate level. For specific requirements, interested students should consult an adviser in the College of Education.

Course work for early childhood certification, a 24-hour program, may be completed at the undergraduate level in conjunction with the elementary education program. Interested students should consult an adviser for specific requirements.

Course work for library certification may be completed at the undergraduate level in conjunction with the elementary or secondary education programs. Interested students should consult an adviser for specific requirements.

The Department of Instructional Services offers an unusual program in the area of training for paraprofessional (teacher aide) positions. Presently, training is offered in the areas of mathematics, early childhood and reading. The 15-hour program sequence consists of the following courses:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 100, The Teacher Aide—Introduction</td>
<td>1</td>
</tr>
<tr>
<td>IS 101, The Teacher Aide—Self-Awareness and Interpersonal Relations</td>
<td>2</td>
</tr>
<tr>
<td>IS 102, The Teacher Aide—Group Dynamics</td>
<td>1</td>
</tr>
<tr>
<td>IS 103, The Teacher Aide—Cultural Differences</td>
<td>1</td>
</tr>
<tr>
<td>IS 104, Introduction to Child Development</td>
<td>2</td>
</tr>
<tr>
<td>IS 105, Operation of Media Equipment</td>
<td>1</td>
</tr>
<tr>
<td>IS 106, Overview of Instructional Materials</td>
<td>1</td>
</tr>
<tr>
<td>IS 107, Preparation of Material and Supervised Practicum—Early Childhood</td>
<td>6</td>
</tr>
<tr>
<td>IS 108, Preparation of Material and Supervised Practicum—Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>IS 109, Preparation of Material and Supervised Practicum—Reading</td>
<td>6</td>
</tr>
</tbody>
</table>

Graduation and Certification Requirements

GENERAL EDUCATION

A total of 50 hours of general education courses is required for teacher certification, including the following requirements for graduation.

1. Communications (9 hours)
   1. 6 hours of English composition—Eng. 101 and 102.
   2. 3 hours of speech—Speech 111 or 112.
II. General Education (32 hours)

1. At least 3 hours of literature, linguistics, speech or foreign language in Division A plus at least 3 additional hours in this division†
2. At least 12 hours in Division B†
3. At least 12 hours in Division C†
4. At least 8 hours of the 32 hours must be in General Studies courses

Note: (a) No courses from the student’s major department may be counted in the general education area; and (b) courses must be taken in at least two departments in each division outside the division containing the student’s major.

*Must have a grade of C or better in Eng. 101 or 102 and in Speech 111 or 112.
†The divisions contain the following departments and programs:

Division A: Humanities and the Fine Arts
American studies, art history, English, dance, German/Russian, history, humanities, linguistics, musicology-composition, philosophy, religion, romance languages, speech, women's studies

Division B: Social and Behavioral Sciences
Anthropology, economics, geography, minority studies, political science, psychology, sociology

Division C: Natural Sciences and Mathematics
Biology, chemistry, geology, mathematics, physics, statistics

Division D: Professional Studies
Accounting, administration (business), administration of justice, aeronautical engineering, aerospace studies, art education, business education, computer science, cytotechnology, dental hygiene, electrical engineering, engineering core, engineering technology, gerontology, graphic design, health care administration, industrial education, industrial engineering, instructional services (education), journalism, library science, logopedics, mechanical engineering, medical record administration, medical technology, military science, military service, music education, music performance (and applied music), nurse clinician, nursing, personal development, personnel services (education), physical education, physical therapy, physician's assistant, public administration (political science), radio-TV (speech), respiratory therapy, social work, studio arts, theater (speech), urban studies

PROFESSIONAL EDUCATION

Professional education requirements in areas of specialization as well as additional general education requirements in these areas are summarized on the following pages.

Elementary Education

I. General Education

Students majoring in elementary education must meet the requirements in the General Education Program, as well as the following requirements in their 30-hour program.

1. In Division A, an American, English or foreign literature course is required.
2. In Division B, Psych. 111 is required.
3. In Division C, Math. 501 and both a biological science and a physical science are required.
4. Within the general education hours or within Area III of the Professional Education section, one course in multicultural studies must be selected.

II. Professional Education

Area I. (12-14 hours)

1. IS 232, Introduction to Professional Education, 2 hours.
2. Entry into the Teacher Education Program (health examination, English and mathematics competency examinations, and audiovisual equipment use check).
3. The following course sequence must be followed.
Courses

IS 233, Educational Psychology: Child Development .................. 3
IS 234, Philosophy and History of Education .......................... 2
IS 428, Social and Cultural Foundations of Education ............... 2
IS 433, Educational Psychology: Learning and Evaluation .......... 3

Area II. (34 hours)
The following requirements must be met. 

IS 319, Language Arts in the Elementary School ................. 3
IS 321, Science in Elementary Education .......................... 3
IS 406, Social Studies in the Elementary School .............. 3
IS 420, Reading in the Elementary School ....................... 3
IS 421, Teaching Methods and Instructional Materials for Elementary  
Reading ........................................................................ 3
IS 444, Mathematics in the Elementary School ................. 3
IS 446, Elementary Education Student Teaching Seminar ....... 1
IS 447, Student Teaching in the Elementary School .......... 13 
or IS 448, Student Teaching in Elementary/Early Childhood School 13
IS 453, Classroom Dynamics ........................................ 2

Area III. (26-28 hours)

Division A (15-18 hours)
Art—Art Ed. 210, Art Fundamentals for the Classroom Teacher  
Career education—IS 746, Introduction to Career Education, and IS 747,  
Curriculum Development in Career Education  
Children’s literature—IS 316, Children’s Literature  
Growth and development—IS 728, Growth and Development I, and IS 729,  
Growth and Development II (for early childhood and middle school emphasis only)  
Health and nutrition  
Industrial education  
Language development  
Literature for adolescents—IS 616, Literature for Adolescents  
Multicultural education—IS 456, Multicultural Education  
Music—Mus. Ed. 351, Music Fundamentals for the Classroom Teacher; Mus.  
Ed. 352, Music Methods for the Classroom Teacher; and Mus. Ed. 606,  
Music Methods for Early Childhood Education  
Ed. 117, First Aid; Phys. Ed. 210, Safety Education; Phys. Ed. 225, Methods  
in Elementary School Physical Education; Phys. Ed. 325, Preschool Physical  
Education; Phys. Ed. 326, Physical Education in the Primary Grades;  

Division B (8-13 hours)
Suggested areas: a. Educational psychology  
b. Foundations of education  
c. Early childhood  
d. Middle school  
e. Library science  
f. Innovative practices in education

*It is recommended that no more than two methods courses be taken in any one semester.

Logopedics

I. General Education  
   In Division B, at least 6 hours in psychology are required, including  
   Psych. 111 and 361.
II. Professional Education
Selected courses from major, plus 18 hours, including the following courses:

IS 232, Introduction to Professional Education, 2 hours
IS 233, Educational Psychology: Child Development—3 hours
IS 327, Clinical Methods in the Public Schools, 3 hours
IS 447, Speech and Language Practicum in the Public Schools, 5 hours
IS 448, Public School Speech and Language Programs, 2 hours
Electives in special education (3-9 hours) to be selected in consultation with a logopedics adviser.

Secondary Education

I. General Education
Students majoring in secondary education must meet the requirements in the General Education Program as well as the following specific requirements within their 50-hour program.

1. Within the 9 hours stipulated in Division A, students must select at least 3 hours of American, English or foreign literature.
2. In Division B, Psych. 111 is required.
3. Within the General Education or the Professional Education sections, one course in multicultural studies must be selected.

II. Professional Education
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. Secondary Teaching Major
1. Major field—a field normally taught in secondary schools must be studied.
2. Minor field—at least one minor field must be taken. Completion of a minor does not qualify the student to teach that field. Special arrangements must be made for the student to qualify to teach in minor fields. In no case may the minor consist of fewer than 15 semester hours. No minor is required if an area major of 50 hours is elected.
3. Professional education
   a. IS 232, Introduction to Professional Education, 2 hours
   b. Entry into the Teacher Education Program (health examination, English and mathematics competency examinations, and audiovisual equipment use check)
   c. The following course sequence must be followed.

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>IS 333, Educational Psychology: Adolescent Development</td>
<td>3</td>
</tr>
<tr>
<td>IS 234, Philosophy and History of Education</td>
<td>2</td>
</tr>
<tr>
<td>IS 428, Social and Cultural Foundations of Education</td>
<td>2</td>
</tr>
</tbody>
</table>

For majors in art, speech and drama, English, social studies, science and mathematics (MITEC):

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 433, Educational Psychology: Learning and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>IS 454, General Methods of Secondary Teaching</td>
<td>3</td>
</tr>
<tr>
<td>Student Teaching—Secondary School</td>
<td></td>
</tr>
<tr>
<td>IS 455, Advanced Methods of Secondary Teaching</td>
<td>1</td>
</tr>
<tr>
<td>IS 456, Multicultural Education (Optional)</td>
<td>3</td>
</tr>
<tr>
<td>IS 453, Classroom Dynamics (Optional)</td>
<td>2</td>
</tr>
</tbody>
</table>
For majors in industrial education, music, physical education, foreign languages, business education:

- IS 433, Educational Psychology: Learning and Evaluation .......... 3
- IS 442, Special Methods in Teaching ................................ 4
- IS 456, Multicultural Education (Optional) ........................... 3
- IS 453, Classroom Dynamics (Optional) .............................. 2

Student Teaching—Secondary School *

* See specific listing of course numbers under Instructional Services—Secondary Student Teaching.

**TEACHING FIELDS**

The major is generally made up of not fewer than 30 semester hours. (For specific exceptions see mathematics, language and the combined curricula programs.) Students may elect one of the majors listed under departmental majors and minors later in this section, which are offered in Fairmount College of Liberal Arts and Sciences, the College of Fine Arts, the College of Business Administration or the College of Education. Students must meet the specific course requirements of the department in which the major is offered. For example, students may elect to major in history because they wish to become a high school history teacher. To do so, they must complete the history major as prescribed by the history department in Fairmount College of Liberal Arts and Sciences. In addition, they must 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 College of Education adviser to be sure they meet certification requirements. A check sheet of all requirements is available from the College of Education.

**COMBINED CURRICULA**

The teaching assignment after graduation often involves a combination of related subjects. For this reason intensive study in the following combined disciplines is offered in lieu of a departmental major and minor. Students should work closely with advisers to ensure proper course selection for certification.
Business Education

Major. Secondary business teachers in Kansas are required to have 24 semester hours in the field, with the equivalent of 6 semester hours in each subject taught, including at least 2 semester hours of resident college credit in courses other than the beginning course. The requirements are summarized in the accompanying table.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Acctg. 210 and 310 or 210 and 220</td>
<td>6</td>
</tr>
<tr>
<td>Admin. 350, 300, 330, 343, 351 or 631</td>
<td>9</td>
</tr>
<tr>
<td>Econ. 201-202* and 231</td>
<td>6</td>
</tr>
<tr>
<td>Typewriting</td>
<td>6</td>
</tr>
<tr>
<td>Shorthand†</td>
<td>6</td>
</tr>
<tr>
<td>Business communications</td>
<td>3</td>
</tr>
<tr>
<td>Secretarial office machines—Bus. Ed. 201</td>
<td>3</td>
</tr>
<tr>
<td>Calculating machines—Bus. Ed. 202</td>
<td>1</td>
</tr>
<tr>
<td>Records management—Bus. Ed. 136</td>
<td>2</td>
</tr>
<tr>
<td>Electives—two upper division business courses in any area</td>
<td>6</td>
</tr>
</tbody>
</table>

*Econ. 201 and 202 fulfill 6 hours of the social sciences requirement and the business requirement as well.
†A total of 15 hours in accounting may be substituted for shorthand.

Minor. For a business education minor, students must take Acctg. 210 and 310; Econ. 201; Bus. Ed. 138 and 237; and 9 hours from accounting, administration, economics or shorthand, including one upper division course.

Natural Sciences—Biological

Teachers in Kansas schools are required to have 24 hours in the field of science, with 12 hours in each subject taught. A teacher who qualifies under this provision may also teach general science. Requirements for a major listed below include the general graduation requirements in mathematics and science for the College of Education.

Major. Requirements for a natural sciences—biological major are Biol. 113, 114, 416, 500 or 502, 520, 524, plus 7 hours of upper division biology. Chem. 111, 112, 531, 532 or the equivalent, and either a physics or geology option consisting of Phys. 213 and 214 or Geol. 111 and 312 are needed.

Minor. A minor in the natural sciences—biological requires Biol. 113, 114, 416, at least 4 hours of upper division biology and 5 hours of chemistry or physics. Students should not elect this minor if they are majoring in one of the sciences. Those who do may use the same course for both major and minor requirements only if they select additional hours equal to those taken to satisfy both the major and minor requirements.
Natural Sciences—Physical

The teaching requirements set forth under the natural sciences—biological field apply to the physical sciences as well. Requirements for the major listed below also include general graduation requirements in mathematics and science for the College of Education.

Major. Requirements for a natural sciences—physical major are Biol. 113 and 114; Chem. 111 and 112; Geol. 111; Phys. 213 and 214; and 10 hours from the following three areas, including at least 5 hours from one department: chemistry, geology or physics, with any of the upper division courses being applicable. (Specific course prerequisites must be met.)

Minor. A minor in the natural sciences—physical consists of at least 15 hours beyond the general graduation requirements, including 3 hours of upper division credit from chemistry, geology or physics. Students should not elect this minor if they are majoring in one of the sciences. Those who do may use the same course for both major or minor requirements only if they select additional hours equal to those taken to satisfy both the major and minor requirements.

Social Studies

To teach any of the social sciences, 36 hours in the field of social studies are required for certification, with a minimum of 6 hours preparation in each specific subject taught, except for American history, political science and courses in world history, which require a minimum of 12 hours in the specific field taught. Requirements for a major may overlap some of the general graduation requirements for the College of Education.

Major. A major in social studies requires Econ. 201 and 202; Hist. 131, 132, and 101, 102 or 103, 104; Pol. Sci. 121 and 9 hours from Pol. Sci. 232, 311, 335 or 336; Soc. 211 and 220 or 520 or Psych. 111 and 361, 375 or 347; Anthro. 124 or 202; Geog. 125 and 201 or 510. In addition to these courses, a minimum of 6 semester hours each must be selected from any two of the following three options:

1. Non-U. S. History—Hist. 521, 522, 559, 560, 562, 563, 610, 611, 612, 613 and 614
2. Early U. S. History—Hist. 501, 502, 503, 504, 517, 521, 531, 536 and 537 or Late U. S. History—Hist. 504, 505, 506, 507, 515, 516, 518, 520, 522 and 531
3. One of the following groups:
   b. Courses listed under minority studies
   c. Courses listed under urban studies and Econ. 687; Hist. 531 and 533; Pol. Sci. 317 and 687; Soc. 226, 534 and 677
Minor. A minor in social studies requires Econ. 201 and 3 hours of upper division economics; Hist. 131 and 132; Pol. Sci. 121; Soc. 211; Anthro. 124 or 202; and one course from option 1, 2 or 3 above. Students majoring in history or political science should not elect this minor. Those who do may use the same courses for both major and minor requirements only if they select additional hours equal to those taken to satisfy both major and minor requirements.

DEPARTMENTAL MAJORS AND MINORS

The selection of teaching fields for the junior or senior high school must be made with an academic counselor 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 elect their major and minor from the fields given below. The specific course requirements of the department from which the major or minor work is taken prevail. Any of the fields is suitable as a supporting minor, but it should be remembered that the minor will not qualify a student to teach unless special arrangements have been made in advance.

Majors and Minors

Art
Biology
Business education o
Chemistry
Classical languages
Economics t
English language and literature o
French t
German t
History
Industrial education o
Mathematics
Music o
Natural sciences—biological o
Natural sciences—physical o
Physical education
Physics
Political science
Social studies o
Sociology t
Spanish t
Speech

Minors Only

Accounting
American studies
Anthropology
Geography
Geology
Journalism
Philosophy
Psychology
Religion and philosophy §

* Needs no minor if a 50-hour field major is outlined in consultation with an adviser from the College of Education.
† A major in sociology or economics must be accompanied by a minor in history or political science.
‡ Teaching preparation for a modern language requires 24 semester hours in the language to be taught or 15 semester hours if the prospective teacher has 24 hours in another modern language.
§ Religion must be combined with philosophy on a minor—no more than 8 hours of religion will count toward a degree.
Art Education
See Department of Art Education, College of Fine Arts.

Dance
See Dance, College of Fine Arts.

Industrial Education
The overall goal of industrial education is to provide a broad concept of industrial technology. Within this broad concept students are given specific educational content that will allow them to pursue their desired career objectives. The primary employment markets for industrial education majors are teaching and industry. Teaching opportunities are available at both the secondary and postsecondary levels. Opportunities in industry are found in the areas of production, service and supervision.

Undergraduate Major—Teaching Emphasis. Persons preparing to teach industrial education subjects in the public schools must satisfy certification requirements established by the Kansas Board of Education.

A major in industrial education with a teaching emphasis requires a minimum of 50 semester hours, including Ind. Ed. 111, 112, 113, 170, 180, 190, 501, 519 and not fewer than 27 hours of electives. Students seeking recommendation for state certification must also complete a 23-hour sequence described under the Secondary Education heading at the beginning of the College of Education section of the Catalog.

Undergraduate Major—Industrial Technology Emphasis. This option requires a minimum of 60 semester hours, including Ind. Ed. 111, 112, 113, 170, 180, 190 and not fewer than 12 semester hours selected from upper division industrial education courses. Courses offered in related departments may be counted toward an industrial education major. Students may select related courses to satisfy their particular needs, provided they have consulted with their major adviser.

Undergraduate Minor—Technical Emphasis. This minor requires a minimum of 18 semester hours selected from laboratory course offerings. Courses must be chosen in consultation with the department.

Graduate Courses. The Master of Education program provides for specialization in secondary education with an emphasis in industrial education. Courses must be selected in consultation with the student’s graduate adviser. For further information consult the Wichita State University Graduate Bulletin.
Lower Division Courses

111. Introduction to Industrial Education. (2). Industrial education as a career; an introduction to present-day programs and the opportunities available. The course is recommended as a first course to be taken in the department. D 11 111 0 0839

112. Construction Technology. (3). 2R; 3L. A course emphasizing the understanding of technology and the scope of industry as it applies to construction. Instruction includes occupationally oriented laboratory activities to reinforce the student's understanding of how man plans, organizes and controls all available resources to produce products on a site. D 11 112 0 0839

113. Manufacturing Technology. (3). 2R; 3L. A study of how industry integrates man, machines and materials into efficient production systems. The study focuses on the management, personnel and production techniques of manufacturing. D 11 113 0 0839

120. Drafting I. (3). 2R; 3L. An introduction to orthographic projection, pictorial representations, with emphasis placed on auxiliary views, sectional views, sketching, revolutions, dimensioning, lettering, and care and use of drafting instruments. D 11 120 0 0839

121. Drafting II. (3). 2R; 3L. A study of the relationship of views in drafting, with emphasis on rotation, projection of solids, planes and lines using standard drafting techniques and procedures. Prerequisite: Ind. Ed. 120. D 11 121 0 0839

124. Woodwork I. (3). 2R; 3L. A study of the use and care of hand and power tools, methods of finishing, wood technology and an overall view of the woods industry. D 11 124 0 0839

125. Woodwork II. (3). 2R; 3L. A study in design, construction and finishing of woodworking projects, with special emphasis on woodworking machine tools, including methods and processes used by industry. Prerequisite: Ind. Ed. 124. D 11 125 0 0839

135. Metals I. (3). 2R; 3L. A basic course dealing with the processes, equipment, materials and products of the metal-working industry; lab experience in sheetmetal, benchmetals, forging, founding, welding and machine tools. D 11 135 0 0839

170. Materials and Processes. (3). 2R; 3L. A study of basic material processing methods, emphasizing those processing methods most common to all materials. Through laboratory applications, the student can develop an understanding of material processing that will facilitate the appropriate selection of suitable materials and processes for particular products. D 11 170 0 0839

180. Power and Energy. (3). 2R; 3L. A study of energy sources, means of harnessing energy, transmitting energy and the effects of power systems. The major types of power and energy to be considered are mechanical, fluid, electrical and combinations thereof. D 11 180 0 0839

181. Electricity I. (3). 2R; 3L. A study of basic principles of electricity and electronics as related to home and industry. Emphasis on electrical theory, transmission and utilization. Laboratory activities include experimentation and fabrication of electrical components. D 11 181 0 0839

190. Visual Communications. (3). 2R; 3L. A study of systematic procedures common to development of visual communications, including analysis of communication problems, selection of media, communication preparation, communication dissemination, communication evaluation and communication storage and retrieval systems. Students develop communication projects using each of the following media: technical graphics, printing, television and photography. D 11 190 0 0839

236. Metals II. (3). 2R; 3L. A study of materials, machines and hand tools used by the sheetmetal industry and an introduction to basic machine tool operations. Prerequisite: Ind. Ed. 135. D 11 236 0 0839

255. Power Mechanics I. (3). 2R; 3L. A study of the operation of motor vehicles, including chassis and drive-line components. Lab experiences include repair techniques and procedures. D 11 255 0 0839

260. Plastics I. (3). 2R; 3L. Study of plastic materials being used in industry; fundamental operations including molding, casting, thermoforming, fabrication and finishing. D 11 260 0 0839

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 4L means 3 hours of lecture and 4 hours of laboratory.

*Prerequisite may be waived for equivalent experience with departmental consent.
261. Plastics II. (3). 2R; 3L. Technical information and product development and construction of molds and forms for molding, casting, laminating and thermoforming. Prerequisite: Ind. Ed. 260.* D 11 261 0 0839

262. Electronics I. (3). 2R; 3L. A basic study of electronics, including the function of components, DC and AC theory, vacuum tube characteristics and applications of power supplies. Experimentation and project construction are included. Prerequisite: Ind. Ed. 181. * D 11 280 0 0839

266. Power Mechanics II. (3). 2R; 3L. A study of motor vehicles, including tuneup, electrical systems, fuel systems and engine service. D 11 286 0 0839

Upper Division Courses

325. Woodwork III. (3). 2R; 3L. For advanced woodworking students, with special emphasis on tools, materials and construction practices as they relate to the building trades. Prerequisite: Ind. Ed. 124.* D 11 325 0 0839

328. Drafting III. (3). 2R; 3L. Development of working drawings in machine, aircraft, structural steel, electrical, architectural details, pipe, map, and patent drawings—all conforming to industrial and prescribed standards. Prerequisite: Ind. Ed. 121. * D 11 328 0 0839

337. Metals III. (3). 2R; 3L. A study of the structure, physical and mechanical properties of metals and the effect of heat treatment on these characteristics. The methods of hot working metals, including forging, foundry and arc, acetylene and tungsten inert gas welding are included. Prerequisite: Ind. Ed. 135.* D 11 337 0 0839

362. Plastics III. (3). 2R; 3L. Advanced problems in production techniques; compression and injection moldings; recent developments and experimental work. Prerequisite: Ind. Ed. 260.* D 11 362 0 0839

370. Directed Study in Materials and Processes. (1-4). The directed study will deal with content related to trade and occupational titles such as auto mechanics, electronics, electrical wiring and hydraulics. This course provides depth of conceptual knowledge and psychomotor skills. Repeatable with adviser's consent. Prerequisites: Ind. Ed. 112, 113 and 170.* D 11 370 0 0839

380. Directed Study in Power and Energy. (1-4). A directed study dealing with content related to trade and occupational titles such as auto mechanics, electronics, electrical wiring and hydraulics. This course provides depth of conceptual knowledge and psychomotor skills. Repeatable with adviser's consent. Prerequisites: Ind. Ed. 112, 113 and 180.* D 11 380 0 0839

384. Electronics III. (3). 2R; 3L. Course includes the theory, instrumentation and application of semiconductors in electronic circuitry. Emphasis is placed on the utilization of transistors and newly developed semiconductors. Prerequisite: Ind. Ed. 282.* D 11 384 0 0839

390. Directed Study in Visual Communications. (1-4). A directed study dealing with content related to trade and occupational titles in drafting, photography, printing, production illustration and architecture. This course provides depth of conceptual knowledge and psychomotor skills. Repeatable with adviser's consent. Prerequisite: Ind. Ed. 112, 113 and 190.* D 11 590 3 5000

426. Woodwork IV. (3). 2R; 3L. Advanced work for specialists in the woodworking field, with emphasis placed on problems growing from the needs of the student. Prerequisite: Ind. Ed. 125.* D 11 426 0 0839

429. Drafting IV. (3). 2R; 3L. Advanced study for drafting students, with emphasis on problems growing from the needs of students based on past performances and progress. Complete dwelling and machine problems, with special emphasis on industrial practices and procedures, are included. Prerequisite: Ind. Ed. 328.* D 11 429 0 0839

443. Methods of Teaching in the Comprehensive General Shop. (3). 2R; 3L. Preparation for teaching industrial education in the comprehensive general shop. Emphasis is placed upon theory, organization and operation of a comprehensive general shop program. Prerequisite: departmental consent. Offered spring semester only. D 11 443 0 0839

450. Metals IV. (3). 2R; 3L. Fundamentals of bench work and basic operations of lathes, mills, grinders, shapers and drills. Prerequisite: Ind. Ed. 236.* D 11 450 0 0839

457. Power Mechanics IV. (3). 2R; 3L. Advanced study in the power mechanics field, with emphasis placed on problems growing from the needs of the student.*Prerequisite may be waived for equivalent experience with departmental consent.
Prerequisite: departmental consent. D 11 457 0 0839

463. Plastics IV. (3). 3R; 3L. Advanced problems in production techniques. Extrusion, rotational casting and foaming are included, and recent developments and experimental work are explored. Prerequisite: Ind. Ed. 362.* D 11 463 0 0839

485. Electronics IV. (3). 2R; 3L. Motors and generators; synchros and synchrocontrol systems; servocontrol devices and systems; industrial measurement and control systems; introduction to microwaves and microwave oscillators; microwave transmitters, microwave duplexers and antennas; amplifiers and microwave mixers; microwave receivers; multiplexing; radar detection and navigation systems. Prerequisite: Ind. Ed. 384.* D 11 485 0 0839

Courses for Graduate/Undergraduate Credit

500. Industrial Field Studies. (4). An in-depth analysis of industrial concepts from the perspective of an industrial employee. A comprehensive written paper conceptualizing research and development, finance, marketing, production, and industrial relations is a course requirement. The paper involves a comparison of the theoretical to the state of the art in a local industrial firm. A one-hour group conference is held on campus each week for purposes of directing student perceptivity. This course may be repeated by selecting specific areas from the industrial principles listed above. D 11 500 2 0839

501. Preparation of Instructional Materials. (3). The selection, development and organization of instructional materials for effective teaching of industrial education. D 11 501 0 0839

519. Shop Planning and Organization. (3). Selection, purchase and organization of shop equipment and supplies. Developing and maintaining necessary records and reports and the planning of shop facilities are also included. D 11 519 0 0839

750. Workshop in Industrial Education. (1-4). Offered from time to time on various aspects of industrial education. D 11 750 2 0839

751. Institute in Industrial Education. (1-8). A course designed to develop knowledge and competence related to curricular and methodological innovations in industrial education. The content is designed to satisfy those competencies that are identified as essential for teaching a defined subject area. Prerequisite: departmental consent. D 11 751 0 0839

Courses for Graduate Students Only

820. Foundations for Curriculum Development in Industrial Education. (3). A study of the theory and practice of curriculum development as determined by social, cultural and industrial changes, including current industrial education curriculum designs, problems and trends. D 11 820 0 0839

821. Curriculum Construction in Industrial Education. (3). Selection and construction of curriculum content for general and specialized areas of study in industrial education. Prerequisite: Ind. Ed. 820.* D 11 821 0 0839

840. Instructional Technology in Industrial Education. (3). A course designed to acquaint graduate students with the emerging technology of instruction. The course includes a study of programmed instruction, systems approach to instruction, instructional television, projected media, motion films, computer-assisted instruction, learning resource centers and other pertinent topics. Students are involved in planning and preparing instructional material using systematic procedures. Prerequisite: departmental consent. D 11 840 0 0839

860. Seminar in Industrial Education. (1-3). Innovations and critical analysis of contemporary problems in industrial arts and vocational education with directed reading and research. Repeatable. D 11 860 0 0839

*Prerequisite may be waived for equivalent experience with departmental consent.
Instructional Services

INSTRUCTIONAL SERVICES—GENERAL

Instructional Services—General courses may apply to the program areas of early childhood, educational psychology, elementary education, special education and secondary education.

Lower Division Courses

100. The Teacher Aide—Introduction. (1) The first course in a 15-hour sequence designed to introduce the paraprofessional aide to higher education and Wichita State University. D 21 100 0 0801

101. The Teacher Aide—Self-Awareness and Interpersonal Relations. (2) The second course in a 15-hour sequence designed to provide teacher aides with a better understanding of their own behavior, how it affects others and some ways to control their own behavior. D 21 101 0 0801

102. The Teacher Aide—Group Dynamics. (1) Designed for the teacher aide in working with students, classroom teachers and colleagues in group situations. D 21 102 0 0801

103. The Teacher Aide—Cultural Differences. (1) Designed to assist the teacher aide in understanding the social and family patterns of various minority groups. D 21 103 0 0801

104. Introduction to Child Development. (2) An overview of child growth and development designed as an introductory course for the paraprofessional in the public schools. Prerequisite: IS 100, 101, 102, 103 or departmental consent. D 21 104 0 0822

105. Operation of Media Equipment. (1) Basic operation and simple maintenance of media equipment used in schools. D 21 105 0 0899

106. Overview of Instructional Materials. (1) An examination of available commercial materials used in public schools for teaching specific skills and concepts. Prerequisite: IS 105 or departmental consent. D 21 106 0 0801

107. Preparation of Material and Supervised Practicum—Early Childhood. (6) Designed to provide the prospective paraprofessional aide with the knowledge necessary for the development and preparation of skill and concept building material in early childhood. Included is a 40-hour supervised practicum experience. Prerequisites: IS 104 and 106. D 21 107 2 0801

108. Preparation of Material and Supervised Practicum—Mathematics. (6) Designed to provide the prospective paraprofessional aide with the knowledge necessary for the development and preparation of skill and concept building material in mathematics. Included is a 40-hour supervised practicum experience. Prerequisites: IS 104 and 106. D 21 108 2 0801

109. Preparation of Material and Supervised Practicum—Reading. (6) Designed to provide the prospective paraprofessional aide with the knowledge necessary for the development and preparation of skill and concept building material in reading. Included is a 40-hour supervised practicum experience. Prerequisites: IS 104 and 106. D 21 109 2 0801

150. Workshops in Education. (1-4). D 21 150 2 0802

232. Introduction to Professional Education. (2) This first course in professional education permits students to become acquainted with what goes on in formal education. Teaching as a profession, the school as an organization, the nature of the curriculum, human relations aspects of education and career options outside of public schools are the major topics studied. Twenty hours of field experience in the schools is required. Prerequisites: sophomore standing and grade of C or better in English 101. D 21 232 0 0801

Upper Division Courses

452. Special Studies in Education. (1-3) Designed primarily for elementary and secondary education majors. Repeatable with adviser's consent. D 21 452 2 0802
453. Classroom Dynamics. (2). Study of concepts from sociology and psychology with purpose of learning to effectively use groups to prevent classroom problems, analyze the social system in a classroom, and to manage individuals and groups within the classroom. Prerequisite: concurrent enrollment in secondary or elementary student teaching. D 21 453 0 0801

456. Multicultural Education. (3). Examination of concepts of race, racism, culture, social class, oppression, cultural pluralism and their implications for education generally and the classroom specifically. Educational materials and instructional strategies are analyzed with regard to the concepts studied. D 21 456 0 0801

490. Individual Studies in Education. (1-3). D 21 490 3 0802

Courses for Graduate/Undergraduate Credit

703. Research and Implementation of Learning Centers. (3). This course will consider a variety of alternative approaches to the teaching of students at all grade levels and subject matter areas via learning centers. D 21 703 0 0801

714. Activities for Human Relations I. (3). Topics covered are values, communications and creativity. Activities in the above areas can be used by individuals and groups in instructional settings. They are used to explain, teach and enhance human relationships. D 21 714 0 0829

715. Activities for Human Relations II. (3). Topics covered are introductory activities, cooperation and self-awareness. Activities in the above areas can be used by individuals and groups in instructional settings. They are used to explain, teach and enhance human relationships. D 21 715 0 0829

718. Group Dynamics for Educators. (3). A laboratory course in human relations and group dynamics based upon involvement in various group activities. D 21 718 0 0829

745. Utilizing the Print Media in Classrooms. (3). Explores various ways the print media may be utilized to teach critical thinking skills, propaganda analysis, communicative skills through word study and writing practice, and improved reading through speed and comprehension practice. Special stress is placed upon the utilization of the daily newspaper as a supplement to other materials in teaching the various school subjects. Preparation of teaching materials for the school classroom is also emphasized. D 21 745 0 0803

746. Introduction to Career Education. (3). An introduction to the philosophical consideration of career education. Participants examine the concepts of career education and explain means whereby the concepts can be infused into the existing curriculum. Experience-based activities related to career opportunities in the local business-industrial sector and postsecondary educational programs are offered in addition to the preparation of curricula materials. D 21 746 0 0829

747. Curriculum Development in Career Education. (3). Designed to assist school personnel in the development of a K-14 scope and sequence for a curricular design that considers the principles of a career education as a unifying theme. Following the scope and sequence development, participants are assisted in the writing of curricular units for their individual teaching assignments. Prerequisite: IS 746 or instructor's consent. D 21 747 0 0821

750. Workshops in Education. (1-4). D 21 750 2 0803

752, 753 or 754. Special Studies in Education. (1-3). See WS 752. Designed for elementary and secondary school teachers. Repeatable with adviser's consent. Prerequisite: teacher certification or departmental consent. D 21 752 2 0802

755. Aerospace-Aviation Education. (3). A course for those who have an interest in aviation education and particularly for those who plan to teach aviation in the secondary schools. There are two parts: (1) aeronautical knowledge of the airplane and of flight and (2) general knowledge about aviation and aerospace. Part I includes the basic ground school subjects of aerodynamics, structures and propulsion, meteorology, navigation, communication and federal aviation regulations. Part II presents information concerning occupational opportunities and the influence of powered flight on modern society. D 21 755 0 0899

789. Values Clarification Education. (3). An introduction to one approach to values education. Students develop competence with values clarification strategies, valuing techniques and the essential skills for valuing. Dealing with value-laden issues in the school curriculum is emphasized. D 21 789 0 0859
Courses for Graduate Students Only


862. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Repeatable for a maximum total of 2 hours of credit. Prerequisite: IS 860. D 21 862 4 0824

875-876. Master's Thesis. (2-2). Prerequisite: IS 860. D 21 875 4 0824; D 21 876 4 0824

890. Special Problems in Education. (1-4). Directed reading and research under supervision of a graduate instructor. Prerequisite: departmental consent. D 21 890 3 0802

INSTRUCTIONAL SERVICES—EARLY CHILDHOOD

In addition to the following courses, IS 728, Growth and Development I, and IS 729, Growth and Development II, relate to this area. Their descriptions appear under the heading Instructional Services-Educational Psychology.

Courses for Graduate/Undergraduate Credit

760. Parent Education for Preschool Teachers. (3). An introduction to ways of working with parents of preschool children and an analysis of formal and informal approaches, with emphasis on the teacher's role in developing these procedures. Prerequisite: IS 761 or instructor's consent. D 21 760 0 0823

761. Early Childhood Education. (3). An introduction to the problems and philosophy of educating children in the preschool years. D 21 761 0 0823

762. Methods and Materials in Preschool Education. (3). The study of teaching methods for the teacher of the preschool child and the preparation of materials to enhance the learning experiences of these children. Prerequisite: IS 761 or instructor's consent. D 21 762 0 0823

763. Teacher/Child Relations. (3). Designed to assist the student in developing the necessary skills for effective communication with children from birth to age nine. Emphasis is placed upon helping the child build a positive self image and a positive relationship with others. D 21 763 0 0823

764. Day-Care Services. (3). Instructional methods and operational procedures for day-care center workers. D 21 764 0 0823

Course for Graduate Students Only

870. Research and Contemporary Influences in Early Childhood Education. (3). Analysis of current early childhood education research with an in-depth study of contemporary programs influencing the education of young children. D 21 870 0 0823
INSTRUCTIONAL SERVICES—EDUCATIONAL PSYCHOLOGY

Lower Division Course

233. Educational Psychology: Child Development. (3). A study of educational and psychological topics as they relate to teaching the elementary-school child. Particular emphasis is given to the teaching-learning process and characteristics of child development. Prerequisites: IS 232 and entry into the Teacher Education Program. D 21 233 0 0822

Upper Division Courses

333. Educational Psychology: Adolescent Development. (3). Development during early and middle adolescent years and relation of theory and research to instruction. Prerequisites: IS 232 and entry into the Teacher Education Program. D 21 333 0 0822

433. Educational Psychology: Learning and Evaluation. (3). A study of the learning process and principles related to learning in the classroom. Consideration and study are given to evaluation of the products of learning. Not open to students who have taken IS 534. Prerequisites: IS 232 and 233 or 333. D 21 433 0 0822

Courses for Graduate/Undergraduate Credit

534. Principles of Learning and Evaluation for Teachers. (3). For description of course see IS 433. The course is intended for those students not taking IS 433 in the secondary student teaching block. It may be substituted for IS 433 but is not open to students with credit in IS 433. Prerequisite: IS 333. D 21 534 0 0822

700. Understanding Statistics in Research Literature. (1). Designed to increase understanding of statistical information in journal articles and other evaluative documents. Assumes no previous knowledge of statistics. D 21 700 0 0824

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. D 21 704 0 0824

728. Growth and Development I: Infancy and Early Childhood. (3). The growth of the infant and young child from birth to approximately age 5 in the areas of physical, cognitive, psychosocial and moral development. Not open to students who have taken Ed. Psych. 730 (no longer offered). Prerequisite: IS 233 or 333 or instructor’s consent. D 21 728 0 0822

729. Growth and Development II: Later Childhood. (3). The growth of the child from about age 5 through age 11-12 in the areas of physical, cognitive, psychosocial and moral development. Not open to students who have taken Ed. Psych. 731 (no longer offered). Prerequisite: IS 233 or 333 or instructor’s consent. D 21 729 0 0822

730. Growth and Development III: Adolescence. (3). Adolescent growth and development in the areas of physical, cognitive, psychosocial and moral development. Prerequisite: IS 233 or 333 or instructor’s consent. D 21 730 0 0822

731. Growth and Development IV: Adults and Aging. (3). Cross-listed as Geron. 731. The process of adult growth and development as well as the process of aging and death in the areas of physical, cognitive, psychosocial and moral development. Prerequisite: IS 233 or 333 or instructor’s consent. D 21 731 0 0822

732. Behavior Management. (3). Presentation and utilization of psychological principles and techniques for dealing with developmental behavior and learning patterns. Emphasis is on the preschool and elementary-school age child. Prerequisite: IS 233 or departmental consent. D 21 732 0 0818

Courses for Graduate Students Only

800. Principles and Application of Educational Psychology. (3). A critical examination of the major topic areas traditionally defined as educational psychology. After examination of basic paradigms and strategies of the discipline, students apply them to such areas as instructional practices and design, classroom management and discipline, etc. Prerequisite: IS 233, or 333, or 433 or instructor’s consent. D 21 800 0 0822

801. Introduction to Educational Research. (3). An introduction to research in education. Included in the course content are: (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. D 21 801 0 0824
811. Educational Measurement and Evaluation. (3). Issues and techniques for measurement and evaluation in the cognitive, affective and psychomotor domains. D 21 811 0 0825

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. D 21 819 0 0822

820. Learning Theory for Teachers. (3). Applications of some major learning theories and learning principles. Prerequisite: IS 801 or departmental consent. D 21 820 0 0822

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 difference between means, simple factorial designs, designs involving matched groups, designs involving repeated measure of the same group and analysis of covariance. Prerequisite: IS 704. D 21 823 0 0824

**INSTRUCTIONAL SERVICES—ELEMENTARY EDUCATION**

**Lower Division Course**

290. Directed Study in Elementary Education. (1-6). D 21 290 3 0802

**Upper Division Courses**

316. Children’s Literature. (3). Books, materials and activities suitable for use with children in the preschool and elementary grades. Reading and examination of a wide selection of children’s books, recordings, poems and films. Development of evaluative techniques for identifying materials and practice in the use of selection aids. Prerequisite: junior or senior standing or departmental consent. D 21 316 2 0802

319. Language Arts in the Elementary School. (3). Exploring teaching strategies and materials applicable to an elementary school language arts curriculum. Topics explored are spelling, handwriting, listening, written communication and oral communication. For a portion of the allocated class time the students will be assigned in a field experience under the supervision of an instructor. Prerequisites: IS 232 and 233. D 21 319 2 0829

321. Science in Elementary Education. (3). Encompasses the areas of development of scientific concepts in children; strategy, tactics and audiovisual aids in teaching elementary school science; stating objectives; off-campus observation and participation; and introduction to experimental science. Prerequisites: IS 232, 233 and a physical and biological science. D 21 321 2 0834

406. Social Studies in the Elementary School. (3). Objectives, methods of teaching, equipment and resources, and evaluation and measurement in the social studies in the elementary school. The unit method of instruction is stressed. Prerequisites: IS 232 and 233. D 21 406 2 0829

420. Reading in the Elementary School. (3). 2R; 2L. A survey of the methods of teaching reading, scope and sequence of reading skills, instructional materials, and the organization of learning experiences. Observation and participation in a public school may be required. Prerequisites: IS 232 and 233. D 21 420 2 0830

421. Teaching Methods and Instructional Materials for Elementary Reading. (3). A competency-based course with an independent study component and a 22-hour practicum experience. Study is conducted in the Robert T. Pate Reading Center. Students refine and develop additional competencies in teaching reading to elementary school children. All hours are on an arranged basis, but the student must have one free hour two days a week from 4:30 to 5:30 p.m. Prerequisite: IS 420. D 21 421 2 0830

444. Mathematics in the Elementary School. (3). A study of the basic methods of instruction, with emphasis given to relating mathematical concepts to cognitive development and learning. Specific attention is given to current curriculum practices, materials and evaluation technique. Prerequisites: IS 232, 233 and Math 501. D 21 444 2 0833

446. Elementary Education Student Teaching Seminar. (1-3). Study and discussion of experiences emerging from student teaching, planning school programs and assuming responsibilities of a teacher. Prerequisites: IS 319, 321, 406, 420 and
444 and concurrent enrollment in IS 447 or 448 and 453. D 21 446 2 0829

447. Student Teaching in the Elementary School. (13). The student teaching program provides full-time participation in the public schools under guidance of a master teacher and a college supervisor. Prerequisites: IS 319, 321, 406, 420 and 444. Students must also be enrolled in IS 446 and 453. Prerequisites may be waived for equivalent experience with departmental consent.

The student teaching semester is required of all students working toward a degree certificate in elementary education. Every student wishing to receive the certificate must file an application with the coordinator of laboratory experiences. Application for the fall semester must be filed by March 31 and for spring semester by November 15. Applications may be secured in Room 107, Corbin Education Center. The only exception ever granted to the requirement of 13 semester hours is to 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 Committee on Admissions, Exceptions and Retention. D 21 447 2 0829

448. Student Teaching in the Elementary/Early Childhood School. (13). The student teaching program provides half-time participation in the elementary (K-6) and half-time in the preschool (three- and four-year-olds) under guidance of a master teacher and a college supervisor. Prerequisites: IS 319, 321, 406, 420 and 444 and 9 semester hours of early childhood education. Prerequisites may be waived for equivalent experience with departmental consent. Note deadline dates for filing an application to enroll in student teaching listed under Student Teaching in the Elementary School. Students must also be enrolled in IS 466 and 453. D 21 448 2 0829

449. Student Teaching in the Elementary School—Physical Education. (13). Prerequisite: physical education major. 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. D 21 449 2 0829


459. Student Teaching in the Elementary School—Art. (3). Prerequisite: art major. D 21 459 2 0829

Courses for Graduate/Undergraduate Credit

518. Methods for the Kindergarten Teacher. (3). To acquaint students with all aspects of the kindergarten program and introduce the wide variety of materials available and in use. Prerequisites: IS 232 and 233. D 21 518 0 0823

705. Introduction to the Reading Process. (3). Designed to acquaint students and teachers with all of the aspects of current reading theory and pertinent reading research to point out the possibilities of applying this theory and research to the actual teaching of children. D 21 705 2 0829

733. Programming for Children's Literature. (3). The course develops specific methods for developing a literature program with children (preschool—elementary years). Specific emphasis is on extending literature and media through the reading environment, language arts and the arts and through creative expression. Prerequisite: junior, senior or graduate standing. D 21 733 0 0802

Courses for Graduate Students Only

802. Classroom Reading Diagnosis. (3). Designed to emphasize the understanding and use of reading survey tests, group diagnostic reading tests, criterion referenced assessment programs and appropriate teacher constructed tests. Will include the selection, administration, scoring and interpretation of group reading tests. Contains a diagnostic practicum. Prerequisite: IS 705. D 21 802 2 0830

804. Research in Reading. (3). Designed to allow students to explore areas of interest and concern in reading through the examination, review and sharing of pertinent reading research. Prerequisites: IS 705 and any other graduate reading course. D 21 804 9 0830

821. Elementary Reading Practicum. (3). Designed to provide practicum experience in delivering developmental and corrective reading instruction in the classroom setting. Prerequisites: IS 705 and 846, or 802, or equivalent. D 21 821 2 0830
842. Remedial Reading Practicum. (3). Emphasis upon individual corrective treatment of diagnosed reading difficulties. A laboratory practicum in remedial reading instruction is required. Prerequisites: IS 705 and 846 or equivalent. D 21 842 2 0830

845. Elementary School Curriculum. (3). Study of the elementary school curriculum includes all of the experiences of children for which the school will assume responsibility. The potential of this broad concept of the curriculum is explored as a means of developing desired elementary learner characteristics. D 21 845 0 0829

846. Remedial Reading Diagnosis. (3). Emphasis upon individual diagnosis. The use of standardized instruments, teacher-made instruments, corrective treatment of reading difficulties; a diagnostic practicum is included. Prerequisite: IS 705 or equivalent. D 21 846 2 0830

849. Seminar in Reading. (3). Designed to examine the organization and administration of reading programs. Additional time is spent investigating pertinent research in the area of reading instruction. Prerequisite: IS 705 or equivalent. D 21 849 9 0830

852. Improvement of Instruction in Language Arts. (3). A study of the recent research, teaching materials and teaching strategies applicable to an elementary school language arts curriculum. Topics of central concern are: spelling, handwriting, listening, written communication and oral communication. D 21 852 0 0829

854. Improvement of Instruction in Social Studies. (3). A study of recent changes in social studies curriculum and instruction designed to investigate strengths and limitations of various approaches. Competency in teaching for concept development, dealing with value-laden issues, and teaching for inquiry are stressed. An inquiry-centered learning environment emphasizes personalizing the social studies curriculum for children. Alternative teaching strategies and complementary evaluative techniques are reviewed and practiced. D 21 854 0 0829

856. Improvement of Instruction in Mathematics. (3). For teachers in service. Consideration of recent trends in subject matter content and teaching guides to improve understanding of meanings, vocabulary and mathematical concepts. Instructional methods and materials are included. Prerequisite: IS 444 or departmental consent. D 21 856 0 0833

858. Improvement of Instruction in Science. (3). For teachers in service. Designed to identify and explore the principles of science that teachers should recognize, understand and consider from kindergarten through grade eight. Prerequisite: IS 321 or departmental consent. D 21 858 2 0834

859. Seminar in Elementary Education. (3). D 21 859 9 0802

863. Trends in Theories of Instruction. (3). A course using materials from public school work groups and from research journals to examine the development of modern practices in elementary education. D 21 863 0 0829

INSTRUCTIONAL SERVICES—FOUNDATIONS OF EDUCATION

Lower Division Course
234. Philosophy and History of Education. (2). A study of the major contemporary educational philosophies and the development of American education. Some emphasis is placed on the students' examination of their philosophies of education. Prerequisite: IS 232 and entry into the Teacher Education Program. D 21 234 0 0821

Upper Division Courses
428. Social and Cultural Foundations of Education. (2). Attention is given to the contributions of sociology and anthropology to the understanding of the school and its position in relation to contemporary school problems. Prerequisites: IS 232 and entry into the Teacher Education Program. D 21 428 0 0821

429. Social and Cultural Foundations of Education: Laboratory. (2). In-depth analysis of school experiences and the practical application of theory to them. Prerequisite: enrollment in field-based program. D 21 429 1 0821

Courses for Graduate/Undergraduate Credit
701. Foundations of Education. (3). A
survey of the various foundations areas, including philosophical, historical, social and comparative. This course is prerequisite to subsequent foundations courses.

D 21 701 0 0821

777. Selected Topics in Foundations. (3). Explorations into current problems and also less familiar areas of foundations. (A) cultural pluralism, (B) religion and morality, (C) film and fiction, (D) economics and politics, (E) classics in education, (F) other. Enrollment may be repeated for several offerings. Prerequisite: IS 701 or instructor's consent D 21 777 0 0821

Courses for Graduate Students Only

807. Philosophy of Education. (3). An introduction to the analysis of concepts such as mind, experience and knowledge in their relationship to educational problems and practices and to philosophical systems. Prerequisite: IS 701 or instructor's consent. D 21 807 0 0821

808. Sociology of Education. (3). An exploration of the relationship between education and society. Prerequisite: IS 701 or instructor's consent. D 21 808 0 0821

817. Comparative Education. (3). Educational systems of selected nations in terms of their unique structures and pervasive problems. Prerequisite: IS 701 or instructor's consent. D 21 817 0 0821

818. Anthropology of Education. (3). A cross-cultural examination of the educational process utilizing some of the basic concepts and perspectives of anthropology. Prerequisite: IS 701 or instructor's consent. D 21 818 0 0821

824. History of Education in the United States. (3). A study of education's relationship to other institutions (political, religious, etc.) in promoting and inhibiting social change in American history. Prerequisite: IS 701 or instructor's consent. D 21 824 0 0821

825. History of World Education. (3). A study of the role of education in world civilizations; major educational trends and developments in history; antecedents of current educational practices and problems. Prerequisite: IS 701 or instructor's consent. D 21 825 0 0821

895. Advanced Studies in Foundations. (3). A course designed for the predoctoral student in any foundational specialty. Prerequisite: 9 graduate hours of foundations of education. D 21 895 0 0821

INSTRUCTIONAL SERVICES—LIBRARY SCIENCE

Students wishing to become school librarians in Kansas must have valid teaching certificates plus specific courses in library science, which may be taken either at the upper division or graduate level. Requirements for librarians in the various types of schools are described below.

Elementary Schools. Librarians must have a valid certificate for teaching in the elementary school and a minimum of 15 semester hours of library science and audiovisual courses.

Junior and Senior High Schools of Fewer than 500 Pupils. Librarians must have a valid certificate for teaching in the secondary schools and a minimum of 15 semester hours of library science and audiovisual courses.

Junior and Senior High Schools of More than 500 Pupils. Librarians must have a valid certificate for teaching in the secondary schools and a minimum of 24 semester hours of library science and audiovisual courses.
Courses for Graduate/Undergraduate Credit

706. Instructional Media Management. (3). For the specialist whose aims are to enhance the use of nonprint materials in the curriculum and to upgrade one's own understanding of multimedia presentations. The mechanics of developing audiovisual services in the school situation are explored. D 21 706 2 1601

707. School Media Center Cataloging and Classification. (3). The principles of cataloging and classification are explored, and a study of the Dewey Decimal classification system and Sears subject heading lists is made. Authorship and description of materials, current problems in cataloging and emphasis on cataloging as a service are included. D 21 707 0 1601

708. The School Media Center Book Collection. (3). How book collections are built, balanced and evaluated. Included is how book collections support and enrich school curriculums and influence the reading and exploratory activities of students that go beyond the bounds of the curriculum. D 21 708 0 1601

INSTRUCTIONAL SERVICES—SECONDARY EDUCATION

Upper Division Courses

400. Basic Reading Skill Practicum. (3). A course designed to provide prospective secondary and/or elementary teachers with supervised practicum experiences in the delivery of one-to-one basic reading instruction to older youth and adults with severe reading deficits. Prerequisite: instructor's consent. D 21 400 2 0830

401. Secondary Reading Foundations. (3). A course designed to provide prospective secondary teachers with an understanding of the development of reading skills, to explore instructional approaches for guiding secondary students in those skills and their use in secondary content areas. Prerequisite: instructor's consent. D 21 401 0 0830


   A—Field and Laboratory Methods in Biology.
   B—The Teaching of Foreign Languages. Methods of teaching foreign languages, based on the audiolingual approach and applied linguistics contrasted with traditional methods. Laboratory techniques, transition into reading and writing, planning and evaluation of student progress are included.
   C—Methods of Teaching Industrial Education. Selection and arrangement of teaching content, methods of teaching, lesson planning, courses of study, testing and grading shop work, evaluating pupil progress, securing industrial education positions and professional responsibility of the shop teacher.
   D—Methods of Teaching Music.
   E—Methods in Physical Education. Presentation and participation in methods of teaching physical education, with emphasis on techniques, skills, organization of activities and classroom procedure.
   F—Special Methods of Business Education. Prerequisites: Bus. Ed. 234 or data processing, and Bus. Ed. 237, Acctg. 210 and 220. D 21 442 2 0829

454. General Methods of Secondary Teaching. (3).

   A—Art (may be taken as Art Ed. 516)
   B—Speech and Dramatic Art
   C—English
   D—Social Studies
   E—Science and Mathematics
Preparation for teaching in secondary schools. Develops skills in lesson planning, methods of teaching, organizing classroom activities. Some public school classroom teaching will be incorporated into this course. Prerequisites: IS 433, 234 and 428. D 21 454 2 0829

455. Advanced Methods of Secondary Teaching. (1).
A—Art (may be taken as Art Ed. 516)
D—Speech and Dramatic Art
E—English
J—Social Studies
R—Science and Mathematics
Continuation of IS 454. Prerequisite: IS 454. D 21 455 2 0829

* Student Teaching—Secondary School. The student teaching semester is required of all students working toward a secondary certificate and is a full-time assignment. Application for approval to enroll in the program must be made to the coordinator of laboratory experiences by March 31 before the fall semester or by Nov. 15 before the spring semester. In addition, students must obtain approval from the representative of the subject area in which they wish to student teach before placement can be considered.

It is expected that students will student teach in their field of major interest. However, individuals who are well prepared in more than one field may apply to student teach in a second field, but they must take the special methods course in the second field before entering the student teaching semester.

The assignment for student teaching begins with the opening of the public school semester, and enrollees must arrange to meet from 8 a.m. to 5 p.m. daily and to be available for selected evening programs throughout the semester. Prerequisites: senior standing, IS 232, 333 and departmental consent.

* For specific areas see IS 462 through 472.

462. Student Teaching—Art. (4 and 7). D 21 462 2 0829
463. Student Teaching—Biology. (7). D 21 463 2 0829
464. Student Teaching—Speech and Dramatic Art. (7). D 21 464 2 0829
465. Student Teaching—English. (7). D 21 465 2 0829
466. Student Teaching—Foreign Language. (7). D 21 466 2 0829
467. Student Teaching—Industrial Education. (7). D 21 467 2 0829
468. Student Teaching—Social Studies. (7). D 21 468 2 0829
469. Student Teaching—Music. (3). D 21 469 2 0829
470. Student Teaching—Physical Education. (7). D 21 470 2 0829
471. Student Teaching—Science/Mathematics. (7). D 21 471 2 0829
472. Student Teaching—Business Education. (7). D 21 472 2 0829

Courses for Graduate/Undergraduate Credit

616. Literature for Adolescents. (3). Extensive reading of literature in all genres consistent with studies of adolescents' reading interests, abilities and responses to literature. Methods of analyzing literature and multiple approaches to the teaching of literature in formal and individualized reading programs. Prerequisite: junior standing. D 21 616 2 0829

770. Teaching Reading in the Secondary School. (3). Emphasis is placed on the teaching of reading in the content areas. Prerequisite: secondary teaching experience. D 21 770 2 0830

Courses for Graduate Students Only

803. Secondary Reading Practicum. (3). Designed to offer reading practicum experience to reading teachers in a secondary school setting. Prerequisites: IS 705 or 770, and 802 or equivalent. D 21 803 2 0830

804. Research in Reading. (3). Designed to allow students to explore areas of interest and concern in reading through the examination, review and sharing of pertinent reading research. Prerequisites: IS 705 and any other graduate reading course. D 21 804 9 0830

831. Creating an Effective Classroom. (3). Designed to create an awareness of classroom management systems which include a variety of management tools and formats. D 21 831 0 0829

832. Secondary School Curriculum. (3). Develops the student's ability to describe, analyze and evaluate curriculum models and programs. Particular attention is paid to the social, psychological and phi-
ophical foundations of curriculum as well as to current trends in curriculum design. D 21 832 0 0829

834. The Teaching of English. (3). Recent developments in the teaching of English: problems, concerns, methods, materials and research. Excellent for teachers who want an extensive review of developments during the past five years. D 21 834 0 0829

835. The Instructional Process. (3). Focuses on the process of instruction in order to develop skill in systematic instructional planning. Includes instructional theory, systems approach and other recent approaches to instruction. D 21 835 0 0829

836. The Teaching of Social Studies. (3). Recent developments in the teaching of social studies: problems, concerns, methods, materials, research. Excellent for teachers who want an extensive review of developments during the past five years. D 21 836 0 0829

837. The Teaching of Science. (3). Recent developments in the teaching of science: problems, concerns, methods, materials, research. Excellent for teachers who want an extensive review of developments during the past five years. D 21 837 0 0834

838. Curriculum Alternatives. (3). An examination of curriculum models that are alternatives to the traditional curriculum and the socioeconomic, political and psychological factors that motivate their development. Attention is given to a comparison of historical and contemporary models for the secondary curriculum. D 21 838 0 0829

850. Seminar in Secondary Education. (3). D 21 850 9 0803

INSTRUCTIONAL SERVICES—SPECIAL EDUCATION

Courses for Graduate/Undergraduate Credit

601. Introduction to Exceptional Children. (3). This course is designed as a survey of the characteristics of exceptional learners including the handicapped and the gifted. Service delivery models and current practices are presented. This course fulfills certification requirements for teachers and serves as an introductory course in exceptionality for special education majors, administrators and school psychologists. Prerequisite: IS 233 or 333. D 21 601 0 0811

602. Introduction to the Gifted. (3). Emphasis on recognition and education of the gifted child. Prerequisite: IS 233 or 333. D 21 602 0 0811

604. Understanding of the Mentally Retarded. (3). Current research and historical approaches to the education of the mentally retarded and survey of the literature in this field. Prerequisite: IS 601. D 21 604 0 0810

702. Reading for Teachers of Exceptional Children. (3). Designed to survey the developmental reading skill needs, diagnostic techniques and teaching approaches pertinent to students in special education settings, particularly LD and EMR. Prerequisite: instructor’s consent. D 21 702 0 0830

742. Learning and Behavior Disorders. (3). A study of the incidence, classification, etiology, intellectual, personal, social and developmental characteristics of the learning disordered child. Current research, parental concerns and historical development of the educational approaches to learning and behavioral disorders are examined. Prerequisite: instructor’s consent. D 21 742 0 0818

744. Curriculum/Methods for the Mentally Retarded. (3). Adaptations of the standard curriculum and innovations that have proven to be beneficial for the teaching of the mentally retarded child. D 21 744 0 0810

749. The Emotionally Disturbed. (3). A study of the incidence, classification, etiology, personal, social and developmental characteristics of the emotionally disturbed. Current research, parental concerns and development of educational approaches are examined. D 21 749 0 0810

Courses for Graduate Students Only

805. Seminar for Reading and LD Teachers. (3). Designed to provide a forum for practicing reading and LD teachers in which to explore common interests, concerns, research and teaching techniques related to reading. Prerequisite: certification in reading or LD. D 21 805 9 0830

840. Psychology of Exceptional Children. (3). A study of the conceptual and theoretical formulations, empirical evidence and
research concerning behavioral characteristics of exceptional children. Prerequisite: instructor's consent. D 21 840 0 0808

841. Program Development in Special Education. (3). Examination of factors in classroom organization and management that affect the establishment and operation of programs for exceptional children. Prerequisite: IS 601 or 840. D 21 841 0 0810

844. Occupational Aspects in Mental Retardation. (3). Designed to study in-depth occupational information, curriculum and methods employed by teachers of the mentally retarded in secondary schools. Prerequisite: IS 604 or departmental consent. D 21 844 0 0810

847E and F. Practicum and Internship in Education: Learning Disabilities. (3-6). Prerequisite: instructor's consent. D 21 847E and F 2 0808

847I and J. Practicum and Internship in Education: Mental Retardation. (3-6). Prerequisite: instructor's consent. D 21 847I and J 2 0808

847K and L. Practicum and Internship in Education: Emotional Disturbance. (3-6). Full-time participation in a class for emotionally disturbed children/adolescents supervised by a master teacher and university professor. Emphasis is on applied teaching methods for the mildly and severely disturbed, formal-informal psychoeducational assessment devices, curriculum strategies, behavior management and prescriptive remediation for academic deficits. Prerequisites: IS 749 and 888. D 21 847K and L 2 0808

864. Practicum Seminar: Learning Disabilities. (1). A seminar designed to examine trends and issues related to the learning disabled individual, adaptation of materials for specific needs and critical examination of incidents related to the practicum experience. D 21 864 2 0829

865. Practicum Seminar: Mental Retardation. (1). A seminar designed to examine trends and issues related to the learning disabled individual, adaptation of materials for specific needs and critical examination of incidents related to the practicum experience. D 21 865 2 0829

866. Practicum Seminar: Emotional Disturbance. (1). A seminar designed to examine trends and issues related to the emotionally disturbed individual, adaptation of materials for specific needs and critical examination of incidents related to the practicum experience. Prerequisite: concurrent enrollment in IS 847K and L. D 21 866 2 0829

868. Methods for Teaching the Emotionally Disturbed. (3). Emphasis is on the theoretical and practical aspects of prescriptive instructional techniques, and materials for the education of the emotionally disturbed in the self-contained and resource classroom. D 21 868 0 0808

885. Curriculum for the Learning Disabled—Secondary. (3). Curriculum appropriate to the learning disabled adolescent in the secondary schools (grades 7-11). Prerequisite: IS 742 or instructor's consent. D 21 885 0 0808

887. Assessment and Analysis of the Learner. (3). The application of standardized and informal classroom teacher evaluation techniques to learning problems. Emphasis is on the application and practical development of intervention techniques based on the diagnostic profiles provided by standardized psychological and educational evaluation. Prerequisite: instructor's consent. D 21 887 1 0808

888. Methods for Teaching Learning and Behavior Disorders. (3). Emphasis is on the theoretical and practical aspects of prescriptive instructional techniques and materials for remediation use with children who have disabilities in learning. Prerequisite: IS 742 or instructor's consent. D 21 888 1 0818

Logopedics (Speech, Language and Hearing Disorders)

The Department of Logopedics provides academic and clinical training for students at Wichita State University who wish to work with communicatively handicapped children and adults. The undergraduate program offers broad, comprehensive and preprofessional prepara-
tion for specialized training, which is offered on the graduate level. Graduate work, culminating in a master’s degree, is required to obtain professional certification as a speech and language or hearing clinician in the public schools, hospital clinics, or rehabilitation centers or to engage in private practice. With an undergraduate, preprofessional major, students can normally complete the master’s graduate program in one calendar year and be eligible for certification by the American Speech and Hearing Association and the State of Kansas public schools. The PhD in logopedics prepares individuals to function professionally as independent clinicians or as teacher-scholars in an academic setting.

UNDERGRADUATE MAJOR

The preprofessional, undergraduate major places primary emphasis on the general areas of communicative sciences and disorders and beginning specialized emphasis on speech and language pathology, audiology or deaf education. Supervised practicum courses are required as part of the training program. Logo. 517 is required for undergraduate students majoring in speech and language pathology, and Logo. 447 and 448 are required for students wishing to qualify as speech and language clinicians in the public schools. Logo. 785 is also required for all students on either an undergraduate or graduate level.

Undergraduate students may major in logopedics in either the College of Education or Fairmount College of Liberal Arts and Sciences. Most students take the program in the College of Education, but those wishing to prepare themselves exclusively for employment in community speech and hearing clinics or hospitals may enroll in Fairmount College of Liberal Arts and Sciences. In either case, all students must satisfy the general education requirements of the University. Students in the College of Education must select certain courses from the General Education Program that will satisfy teacher certification requirements. These are stated under general requirements at the beginning of the College of Education section of the Catalog.

Speech and Language Pathology

The major with emphasis in speech and language pathology consists of a minimum of 32 hours and includes the following courses:

*Required*: Logo. 111, 214, 216, 218, 220, 315, 318, 322, 517, 525 and 531. To qualify as speech clinicians in the public schools, students must also complete Logo. 327, 447 and 448.

*Optional*: Logo. 132, 700, 710, 720, 725, 740, 747, 760 and 785.

Audiology

The major with emphasis in audiology consists of a minimum of 30 hours and includes the following courses:
**Required:** Logo. 111, 214, 216, 218, 220, 315, 531, 740, 747 and 785.

**Optional:** Logo. 132, 318, 322, 327, 525, 725, 735 and 760.

**Deaf Education**

Undergraduate preparation with *beginning* emphasis in deaf education consists of a minimum of 30 hours and includes the following courses:

**Required:** Logo. 111, 214, 216, 218, 220, 315, 318, 531, 740, 747, 760 and 785.

**Teacher Education**

One full semester of student teaching is required for all students working toward certification as public school speech and language clinicians. To complete this requirement, students must take Logo. 517 in a clinical setting and Logo. 447 and 448 in a public school setting, accumulating a total of 10 hours of credit.

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

Students must apply for admission to both student teaching semesters (Logo. 447 and 517). They must have an overall grade point average of 2.50; a 2.50 average in the major field; a grade of C or higher in Speech 111 or 112, or their equivalent; and the recommendation of the major department. Medical clearance must also be obtained before the start of the student teaching assignment.

**Certification**

The logopedics undergraduate preprofessional major may be applied toward certification by the American Speech and Hearing Association. This certification requires a master's degree, with major emphasis in speech and language pathology or in audiology.

Students desiring to complete requirements for the department's clinical certification program should make formal application to do so during enrollment in Logo. 220 or no later than the second semester of their sophomore year. Transfer students should apply during the semester prior to, or immediately upon, taking upper division courses in the department. Evaluation of the student's speech, language and hearing proficiency will be conducted at this time. Significant deviations in any area must be corrected to maximum ability before certification.

**UNDERGRADUATE MINOR**

A minor in logopedics consists of 17 hours and may be earned in either the College of Education or Fairmont College of Liberal Arts and Sciences. The following courses are recommended for a minor unless
other arrangements are made: Logo. 111, 132, 214, 216, 218 and 220. Arrangements for the minor should be made in consultation with the Department of Logopedics.

OTHER REQUIREMENTS

Participation in many of the department’s clinical practicum courses requires that a student obtain medical clearance prior to the start of the course. This requirement is indicated in the individual course descriptions. Procedures to be followed may be obtained from the department’s office. Also, seniors and graduate students who participate in active clinical practice during the year must purchase professional liability insurance in the amount of not less than $100,000/$300,000. This must be done on a yearly basis, when appropriate.

Logo. 705, Communicative Disorders, which is cross-listed as Speech 665, is a general survey course and may not be used as part of either a major or minor in logopedics at the undergraduate or graduate level without departmental consent.

CORRECTIVE TRAINING

Corrective training for members of the community with speech, language or hearing disorders, as well as students enrolled at Wichita State, may be arranged with the Department of Logopedics. A minimal fee is charged.

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.

COMMUNICATION SCIENCES

Lower Division Courses

214. Anatomy and Physiology of the Speech and Hearing Mechanisms. (3). A study of the prenatal development and basic anatomy of the systems necessary for speech and hearing. The respiratory, phonatory, articulatory and auditory mechanisms are discussed from a functional point of view. Prerequisite: prior or concurrent enrollment in Logo. 111. D 12 214 0 1220

216. Introduction to Speech and Hearing Sciences. (3). Examination of elements in the chain of events that leads to human communication. Speech production and perception are studied at physiologic and acoustic levels, with primary emphasis on acoustics. Prerequisites: sophomore standing and prior or concurrent enrollment in Logo. 111. D 12 216 0 1220

218. Phonetics: Theory and Application. (3). 3R; 1L. Cross-listed as Ling. 218. The study of physiologic, acoustic and perceptual specification of speech sounds and a survey of current phonological theory and applications to speech improvement. Extensive practice is given in transcription of speech. Prerequisites: sophomore standing and prior or concurrent enrollment in Logo. 111. D 12 218 0 1220

220. Developmental Psycholinguistics. (3). The study of the acquisition of language in the child from birth to six years of age. Various acquisition theories are evaluated in the light of current psychological and linguistic thought. Special emphasis is given to the development of phonology, morphology and syntax. Prerequisites: sophomore standing and prior or concurrent enrollment in Logo. 218. D 12 220 0 1220
Courses for Graduate/Undergraduate Credit

710. The Neurology of Speech and Language. (4). A consideration of basic neuroanatomy and neurophysiology 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. D 12 710 0 1220

735. Anatomy, Physiology and Pathology of the Auditory System. (3). Detailed anatomy and function of the auditory system. Normal and pathological conditions are studied, with emphasis on clinical manifestations. Prerequisite: Logo. 931. D 12 735 0 1220

Courses for Graduate Students Only

828. Advanced Speech and Hearing Science. (3). 3R; 1L. Advanced study of speech and hearing processes, primarily in their normal aspects. Attention is devoted to current understanding of speech generation, the speech signal and the normal function of hearing. Attention is also given to techniques of investigation of these processes. Prerequisite: Logo. 216 or equivalent or departmental consent. D 12 828 0 1220

830. Laboratory Instrumentation. (3). 2R; 3L. An introduction to clinical and research instrumentation used in the fields of communicative disorders and sciences. Experience with instrumentation is gained through practical projects and applications within the laboratory. Prerequisite: Logo. 828. D 12 830 0 1220

867. Introduction to Psychoacoustics. (3). 3R; 1D. Basic principles underlying the perceptual hearing process, with emphasis on the interdependencies between sound stimuli and subjective auditory experience as related to communication behavior. Prerequisite: Logo. 740. D 12 867 0 1220


910. Communicative Sciences: Acoustic Phonetics. (3). 3R; 2L. A critical review of research dealing with the acoustical characteristics of speech. Also included are speech perception and techniques of speech synthesis and analysis. Prerequisite: Logo. 828. D 12 910 0 1220

920. Neurophysiology of Communication. (2). Special lectures, seminars, clinical demonstrations and independent study. D 12 920 0 1220

SPEECH AND LANGUAGE PATHOLOGY

Lower Division Courses

111. Introduction to Speech and Language Pathology and Audiology. (3). Orientation to the professional disciplines of speech and language pathology and audiology (logopedics); the place of logopedics among the professions, communicative problems commonly found and treated and the impact of these problems on the individual; and general approaches to habilitation. D 12 111 0 1220

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 1L means 3 hours of lecture and 1 hour of lab. Other courses are designated with the symbols R and D, R standing for lecture and D for demonstration. For example, 3R; 3D means 3 hours of lecture and 3 hours of demonstration.

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132. Introduction to Clinical Management in Speech and Language Pathology. (2). 2R; 2D. An overview of communication disorders in relation to other educational disciplines. Twenty-five hours of observation of clinical procedures with handicapped children in a variety of settings is required. Prerequisites: prior or concurrent enrollment in Logo. 111 and medical clearance. D 12 132 0 1220

Upper Division Courses

315. Articulation Disorders: Diagnosis and Clinical Management. (3). Contrast of normal and deviant articulation. Etiology, evaluation and methods of modification are also included. Prerequisites: Logo. 214 and 218. D 12 315 0 1220

316. Behavioral Analysis of Speech and Language Disorders. (2). 2R; 3L. A presentation of principles of behavioral analysis. Interviewing and counseling procedures with parents, clients and professional workers, and the use of clinical equipment are discussed. Ongoing observation of training programs of two clients in a clinical setting is required. Prerequisites: Logo. 220 and junior standing, or departmental consent, and medical clearance. D 12 316 0 1220

322. Clinical Management of Speech and Language Disorders. (3). 3R; 3L. Supervised application of techniques with simpler problems; observation of more difficult communicative disorders and an introduction to language intervention techniques used with childhood aphasia. Forty-five hours of direct observation and practicum are required. Prerequisites: Logo. 315 and 318 (315 may be taken concurrently) and medical clearance. D 12 322 0 1220

327. Clinical Methods in the Public Schools. (3). Organization, administration and professional relationships in public school speech and language management programs on the elementary and secondary school levels. Emphasis is given to procedures and materials for surveying, scheduling, therapeutic management planning, record keeping and utilization of various instructional media. This course should be taken the semester prior to student teaching—Logo. 447. Prerequisites: Logo. 315 and 522. This course may be taken concurrently with Logo. 525. D 12 327 0 1220

400H. Honors Seminar. (2). Advanced study in selected areas of speech, language and hearing disorders, with students structuring the content of the seminar. Course provides an opportunity for original student contributions within a group seminar experience under the guidance of a senior professor. Prerequisites: logopedia major with junior or senior standing who is eligible for the Emory Lindquist Honors Program. D 12 400H 9 1220

447. Speech and Language Practicum in the Public Schools. (5). Half-time participation in a public school speech and language management program under the guidance of a certified clinician and a college supervisor. Prerequisites: senior standing; Logo. 315, 322, 327, departmental consent one semester prior to enrollment and medical clearance. D 12 447 2 1220

448. Public School Speech and Language Programs. (2). Discussion and evaluation of student teaching experiences in public schools; demonstrations of applied clinical skills; counseling on the elementary and secondary school levels. To be taken concurrently with Logo. 447. D 12 448 9 1220

490. Directed Study in Speech and Language Pathology or Audiology. (1-3). Individual study or research on specific problems. Repeatable for credit. Instructor's consent must be obtained prior to enrollment. Offered all terms. D 12 490 3 1220

Courses for Graduate/Undergraduate Credit

517. Clinical Process in Speech-Language Pathology. (3). 2R; 4L. A clinical process approach to developing competence in a supervised practicum setting. Lecture portion of the course will be related to review of contemporary management methods, development of clinical skills, tools for process and intervention outcome analysis, and introduction to supervisory process. Students will also be required to complete 50 hours of clinical experience, including at least 25 hours of direct client contact. Prerequisites: senior standing; Logo. 315, 322, departmental consent one semester prior to enrollment and medical clearance. D 12 517 0 1220

525. Voice Disorders: Diagnosis and Clinical Management. (3). Review of current knowledge on the symptomatology and etiology of commonly encountered voice disorders in children and adults. Presentation of procedures for differential diagnosis and clinical management, based on a working knowledge of the anatomy and physiology of normal voice produc-
700. Cleft Palate: Evaluation and Clinical Management. (3). Methods of evaluating and modifying articulation and resonance in cleft palate individuals. The role of speech clinician within an interdisciplinary team is explored. Consideration is given to other organic anomalies. Prerequisite: prior or concurrent enrollment in Logo. 214. D 12 700 0 1220

705. Communicative Disorders. (3). Cross-listed as Speech 665. A survey of speech, language and hearing disorders; their identification and treatment; and consideration of the roles of health and educational specialists in the total rehabilitative process. Background in normal communicative structures, processes and acquisition is provided for understanding communicative disorders. Areas introduced include language disabilities in children, adult aphasia, articulation disorders, voice disorders, cleft palate, laryngectomy, stuttering, cerebral palsy and hearing impairment. Not open to students majoring in logopedics. Credit in both Logo. 111 and 705 is not allowed. D 12 705 0 1220

720. Stuttering: Diagnosis and Clinical Management. (3). 3R; ID. A review of current theories on the etiology and development of the disorder. Behaviorally based diagnostic procedures for children and adults are covered, as are methods for clinical management and real-life generalization, including procedures for parent and client interviewing and counseling. Opportunities for observation and demonstration therapy are provided. D 12 720 0 1220

725. Language Disabilities in Children. (3). Psycholinguistic and cognitive approaches to language disabilities in children. Practical application of language assessment procedures, interpretation of results and methods of language intervention are covered. Prerequisite: Logo. 111 or 705, 220 or departmental consent. D 12 725 0 1220

727. Teaching English as a Second Language. (2-3). Cross-listed as Ling. 727. Current methods of teaching English to nonnative speakers are discussed. Students learn to analyze interlanguage patterns and to design appropriate teaching units for class and language laboratory use. Students signing up for 3 hours participate in supervised teaching in sections of Eng. 101 and/or 102 for nonnative speakers of English. D 12 727 0 1220

Courses for Graduate Students Only

805. Adult Aphasia: Evaluation and Clinical Management. (3). Review of historical and contemporary literature; standard tests for evaluation of communicative disorders in aphasia and procedures for planning rehabilitation regimes for adults. Prerequisite: prior or concurrent enrollment in Logo. 710. D 12 805 0 1220

810. Cerebral Palsy: Evaluation and Clinical Management. (3). The study of cerebral palsy and related neurological disorders. An evaluation and modification of speech and speech-related functions and a study of the cerebral palsied individual in society are included. Prerequisite: prior or concurrent enrollment in Logo. 710. D 12 810 0 1220

815. Interviewing and Parent Counseling. (3). Presentation of current techniques of case history taking and interviewing as they apply to speech, language, hearing, learning and behavior disorders in handicapped children and adults. Procedures employed in ongoing and terminal counseling are considered. D 12 815 0 1220

820. Examination Methods in Speech and Language Pathology. (3). 3R; 3L. Appraisal and differential diagnostic techniques in speech and language pathology. A weekly diagnostic practicum in communicative disorders is held, with experiences in report writing and follow-up procedures provided. Prerequisites: medical clearance and terminal semester of graduate program. D 12 820 0 1220

823. Language Training Systems. (3). Discussion of current language intervention programs. Assessment procedures leading to the development of individualized training programs are also examined. Prerequisite: Logo. 725 or departmental consent. D 12 823 0 1220

825. Seminar in Communicative Disorders. (2-3). Review of recent developments and a study of methods of integrating research findings and newer clinical methods and concepts into a rehabilitative procedure. D 12 825 9 1220

835. Graduate Practicum in Communicative Disorders. (1-3). 3-9L. Supervised application of diagnostic and/or clinical management techniques with children and adults presenting communicative disorders. Fifty hours practicum for each hour of credit is required. Repeatable. Prerequisites: Logo. 517 or equivalent, 447 or equivalent, departmental consent and medical clearance. D 12 835 2 1220
Audiology

Courses for Graduate/Undergraduate Credit

531. Introduction to Audiology. (3). 3R; 1L. History and scope of the field. Basic aspects of the normal hearing function are studied, and a survey of auditory testing procedures, including audiometric screening, is made. An introduction to the use of hearing aids, auditory training, lip reading and rehabilitative counseling is also included. Prerequisites: Logo 214 and 216. D 12 531 0 1220

740. Introduction to Audiologic Technique. (3). 3R; 2L. Techniques and procedures for administering the basic auditory test battery and screening tests for various age levels and the interpretation of audiometric results. Calibration and maintenance of audiometric equipment. Prerequisite: Logo 531. D 12 740 0 1220

747. Rehabilitative Audiology. (3). Educational and psychological impact of hearing loss. Methods of improving the educational and family environment for the benefit of the hearing impaired are covered. Procedures for maximal usage of amplification are discussed. Speech reading and auditory training are studied as methodologies for dealing with speech and language deficits by utilizing auditory and visual cues. Prerequisite: Logo 531. D 12 747 0 1220

785. Supervised Practicum in Rehabilitative and Diagnostic Audiology. (1-3). 1R; 3-9L. Supervised experience in the teaching of speech, language, speech reading and listening skills to deaf or hard of hearing children and adults. Supervised experience in the testing of hearing. Three to 4 hours practicum per week are required for each hour of credit. Repeatable. Prerequisites: Logo 531, prior or concurrent enrollment in Logo 747, departmental consent one semester prior to enrollment, and medical clearance. D 12 785 0 1220

Courses for Graduate Students Only

850. Supervised Practicum in Audiometrics. (1-3). 1R; 3-9L. Application of audiometric techniques in clinical situations. Experience is gained in complete patient management, counseling and rehabilitation follow-up, when appropriate. Three to 4 hours of practicum per week are required for each hour of credit. Repeatable. Prerequisites: medical clearance, departmental consent and Logo 740. D 12 850 0 1220

855. Auditory Evaluation of Infants and Children. (3). 3R; 1L. Demonstration and practice in assessing auditory functioning of infants and children through 48 months of age. Report writing and parent counseling, as well as a study of appropriate instruments and procedures, are included. Prerequisites: Logo 740 and medical clearance. D 12 855 0 1220

860. Hearing Aids. (3). 3R; 2L. The history and function of hearing aids. The measurement and significance of the electroacoustic characteristics, principles and procedures for the selection and recommendation of specific hearing aids for individual hearing losses, hearing aid orientation and counseling related to various age categories are covered. Prerequisite: Logo 740. D 12 860 0 1220

865. Advanced Clinical Audiology. (3). 3R; 2L. Diagnostic and rehabilitative procedures in the audiology clinic. Techniques and procedures for the administration and interpretation of special auditory tests, including acoustic impedance and evoked auditory response measurements, are included. Prerequisite: Logo 740. D 12 865 0 1220

870. Seminar in Audiology. (2-3). Review of recent developments and research, with attention given to industrial audiology and environmental noise problems. Prerequisite: Logo 740. D 12 870 0 1220

150
DEAF EDUCATION

Courses for Graduate/Undergraduate Credit

560. 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. Prerequisites: Logo. 111 and junior standing or departmental consent. D 12 560 0 1220

561. Signing Exact English II. (1). 2R. An advanced class in the theory and use of Signing Exact English (SEE) as a means of communication with the hearing impaired. Vocabulary and interpreting skills will be emphasized. Prerequisite: Logo. 560. D 12 561 0 1220

760. Introduction to Deaf Education. (3). 3R; 1L. Evolution of educational programs and methods used with the deaf. Contributions of related disciplines to educational methodology and special aspects of curriculum development in schools and classes for the deaf are surveyed. Also included is a review of common communication systems and social and vocational considerations. Prerequisite: Logo. 531. D 12 760 0 1220

765. Teaching Language to the Deaf. (3). 3R; 1L. Analysis of language problems and methods for teaching language to the deaf. Prerequisite: Logo. 760. D 12 765 0 1220

770. Teaching Speech to the Deaf. (3). 3R; 1L. Current methods and evaluation techniques. Prerequisites: Logo. 760. D 12 770 0 1220

775. Teaching School Subjects to the Deaf. (3). 3R; 1L. A study of the principles, techniques and methods for teaching school subjects to deaf children. The development of reading readiness and reading ability from the point of view of acquiring language facility or achievement in other basic studies is also examined. Prerequisite: Logo. 760. D 12 775 0 1220

780. Supervised Practicum in Teaching the Deaf. (2). 1R; 6L. Supervised application of techniques in a classroom setting. The teaching of academic material and the development of language for the deaf child are included. Prerequisites: Logo. 775 and medical clearance. D 12 780 0 1220

GENERAL

Upper Division Course

490. Directed Study in Speech and Language Pathology or Audiology. (1-3). Individual study or research on specific problems. Repeatable. Instructor's consent must be obtained prior to enrollment. D 12 490 3 1220

Courses for Graduate/Undergraduate Credit

715. Selected Topics in Logopedics. (1-3). Individual or group study in specialized areas of communicative sciences and disorders. Repeatable. D 12 715 0 1220

750. Workshop in Logopedics. (1-4). A course offered periodically on selected aspects of speech and hearing habilitation. D 12 750 0 1220

Courses for Graduate Students Only

800. Introduction to Graduate Study and Research. (3). A general introduction to graduate study. A survey is made of research procedures utilized in the fields of communication sciences and communication pathology. Presentation of principles for scientific writing and critical reading of professional research journals is included. D 12 800 0 1220

880. Presentation of Research. (1-3). A directed research project culminating in a manuscript appropriate for publication. Repeatable, but total credit hours may not exceed 3. Prerequisites: Logo. 800 and instructor's consent prior to enrollment. D 12 880 4 1220

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890. Independent Study in Speech and Language Pathology or Audiology. (1-3). Arranged individual, directed study in specialized content areas in speech and language pathology or audiology. Admission by instructor's consent prior to enrollment. Repeatable. D 12 890 3 1220

895. Thesis Research. (1-2). Repeatable, but total credit hours counted toward degree requirements must not exceed 2. D 12 895 4 1220

899. Thesis. (1-2). Repeatable, but total credit hours counted toward degree requirements shall not exceed 2. D 12 899 4 1220

915. Advanced Selected Topics in Logopedics. (1-4). Advanced individual or group study in specialized areas of communicative sciences and disorders. Intended for doctoral students or advanced master’s-level students. Repeatable. D 12 915 0 1220

925. Clinic and Program Administration. (2). Approaches to clinical administration and rehabilitation program planning and development. Attention is given to community analysis and utilization, personnel management, evaluation of program effectiveness, standards for accountability and fiscal procedures. D 12 925 0 1220

930. Seminar in Clinical Research. (3). Presentation of advanced models in research design applicable to the investigation of communicative disorders in a clinical setting. Prerequisites: Logopedics 800 and competency in statistics. D 12 930 9 1220

935. Advanced Practicum in Logopedics. (1-4). 1R; 3-12L. 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. This course is intended for doctoral students or advanced master’s-level students. Repeatable; more than one section may be taken concurrently. D 12 935 0 1220

990. Advanced Independent Study in Speech and Language Pathology, Audiology or Speech Science. (1-3). Arranged individual, directed study in specialized content areas in speech and language pathology, audiology or speech sciences. Repeatable. Prerequisites: advanced standing and instructor's consent. D 12 990 3 1220


Military Science

ARMY ROTC

The United States Army Reserve Officers' Training Corps (ROTC) develops citizen officers for the United States Army. It enables students to prepare for a position of leadership in either a civilian or military career by earning an army reserve commission while acquiring their baccalaureate degrees. Outstanding students are designated as Distinguished Military Students and have the opportunity to acquire a Regular Army commission. Completion of the ROTC program, coupled with courses in a prescribed field of study, enables college graduates to qualify for various career or reserve programs in the army.

Students enrolled at nearby colleges not offering United States Army ROTC may enroll in the ROTC program at Wichita State University as special students and thereby qualify for a commission.
Currently, university graduates who are commissioned through United States Army ROTC may apply for active duty in the United States Army for a period of three years. Commissionees may apply for active duty for training and serve on active duty for a period of three to six months. Students may be permitted to delay entry into active duty for a period of up to three years in order to pursue graduate-level studies.

Information on ROTC scholarships can be obtained from the Wichita State Office of Financial Aids or the Department of Military Science.

PROGRAMS

Wichita State University offers two elective ROTC programs: the four-year program and the two-year program.

Four-Year Program

The four-year program has a basic course for freshmen and sophomores and an advanced course for juniors and seniors. Freshmen and sophomores attend 1 conference hour each week, plus an additional 4-hour leadership laboratory each month. Enrollment in the basic course does not obligate students to enter the advanced course or for any period of service.

The advanced course requires juniors to attend 2 conference hours per week in the fall and 3 conference hours per week in the spring; seniors attend 3 hours per week in the fall and 2 conference hours per week in the spring. Juniors and seniors must also attend the equivalent of a 4-hour leadership laboratory once each month. Advanced course students attend a six-week advanced camp between their junior and senior years.

To qualify for enrollment in the advanced course, students must:
1. Complete the basic course, have armed forces active duty service credit or have three years Junior ROTC (high school)
2. Be physically qualified
3. Have a scholastic grade point average of 2.00 or above
4. Successfully complete survey and general screening tests.

The testing and physical examinations are scheduled and arranged by the military science department.

During all courses students are furnished with a uniform and military science texts. In addition, advanced course students receive $100 per month for approximately 20 months. Attendance at advanced camp is reimbursed by approximately $500, plus 8 cents a mile for travel to and from advanced camp. Pay and allowances received by an advanced course student total approximately $2,500. The commissioned officer is presented with a uniform upon entering active duty, and a $300 uniform allowance is allotted.
Departmental extracurricular activities are available to students on a voluntary basis. They include Orienteering Team, intramural athletics, Ranger Platoon, Pershing Rifles, and Rifle Team.

Two-Year Program

Although designed basically for transfer students from junior colleges and colleges and universities not offering ROTC, the two-year program enables students who have four semesters of school remaining before qualifying for a degree to enroll in a basic six-week summer camp between their sophomore and junior years. This camp is designed to educate students in the basic military skills they would have acquired during their first two years of the four-year program. Pay for this camp is approximately $500.

Beginning with the junior year, the two-year program students complete the same advanced course as the four-year program students. Prerequisites are the same as those for entry into the four-year advanced course.

Lower Division Courses

113. United States Defense Establishment. (1). IR; 1 Leadership Laboratory. An introduction to national security policy and the use of force, governmental structure and decision making, and issues in contemporary American military affairs. Prerequisite: departmental consent. D 15 113 5 1801

114. Introduction to Leadership and Management. (1). IR; 1 Leadership Laboratory. An introduction to the leadership role and management functions of planning, organizing, coordinating, directing and controlling as a basis for an understanding of application in military organizations. Prerequisite: departmental consent. D 15 114 5 1801

200. ROTC Basic Camp. (4). A six-week training period of classes and field work. Subjects included are organization of U.S. Army, marksmanship, map reading, tactics and operations. Practical experience in leadership is stressed. Course prepares students for ROTC advanced program. Prerequisite: departmental consent. D 15 200 5 1801

223. Fundamentals of Military Training. (1). IR; 1 Leadership Laboratory. A course developing a proficiency in the use of military maps and an appraisal of terrain for the planning and conduct of military operations. Fundamentals of individual and group military training are included. Prerequisite: departmental consent. D 15 223 5 1801

224. Introduction to Tactics. (1). IR; 1 Leadership Laboratory. The mission, organization and capabilities of small units. Offensive and defensive operations, patrolling, and leader functions and responsibilities are included. Prerequisite: departmental consent. D 15 224 5 1801

Upper Division Courses

333. Advanced Military Tactics. (2). IR; 1 Leadership Laboratory. Military instructional techniques. Decision making at the small-unit level, problem solving within the military framework, and organization and capabilities of military units and advanced military tactics are also included. Prerequisites: basic military science course (all), or basic summer camp or military service credit and departmental consent. D 15 333 5 1801

334. Advanced Leadership Development. (3). IR; 1 Leadership Laboratory. An interdisciplinary approach to leadership theory. Provides a degree of sophistication in terminology, heightened aware-

The following abbreviation is used in the course descriptions: R stands for lecture. For example, IR; 1 Leadership Laboratory means 1 year of lecture and 1 hour of leadership laboratory.
ness of the issues and improved understanding of the crucial factors involved in the influence act. Utilizes an action model based on the study of the individual, the individual’s relationship with organizations and culminates with the interface of organizations and society. Prerequisites: MS 333 and departmental consent. D 15 334 5 1804

400. ROTC Advanced Camp. (3). A six-week training period of classes and field work. Subjects included are signal communications, land navigation, tactics, weapons, Leader’s Reaction Course and field problems test. The course provides leadership opportunities in the form of problem analysis, decision making and management experiences. Prerequisites: MS 333 and 334 or departmental consent. D 15 400 2 1804

443. Theory and Dynamics of the Military Team. (3). 3R; 1 Leadership Laboratory. The organization and role of divisional units, the study of company tactics and military law. Prerequisites: MS 333 and 334 or departmental consent. D 15 443 5 1801

444. Seminar in Leadership and Management. (2). 2R; 1 Leadership Laboratory. Staff operations and procedures. Preparation for active duty to include roles and responsibilities of the junior officer and a leadership seminar. Prerequisite: MS 443 or departmental consent. D 15 444 5 1801

Music Education

Mus. Ed. 351, 352, 501, 606, 610, 611 and 706 are specifically available for students in the College of Education. Service courses in special music education are also available. The full description of courses offered in music education is given in the College of Fine Arts, Division of Music section.

Personnel Services

EDUCATIONAL ADMINISTRATION AND SUPERVISION

Courses for Graduate/Undergraduate Credit

704. Supervision and the Improvement of Instruction. (3). The application of curricular theories, psychology and methods of supervision to the problems of improving classroom instruction and teaching methods. D 16 704 0 0827

715. Administration of the Community College. (3). Administration and supervision in the community college coupled with improvement of educational services in the community through continued education. Control, methods of finance, facilities, focus on individual students and evaluation of the entire process are stressed. D 16 715 0 0827

750. Experienced Administrator’s Workshop. (1-2). Offers a variety of administrative topics. D 16 750 2 0827

752. Special Studies in Educational Administration and Supervision. (1-3). Group study in a preselected specialized area of educational administration and supervision. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 16 752 0 0827

Courses for Graduate Students Only

801. Introduction to Administration and Supervision. (3). An examination of the major theories of administration and their application to specific problems. Emphasis is on an overview of administration of the school district, especially problems involving the community and staff. In-
cluded is data gathering for self-evaluation of supervisory potential. Open to all College of Education graduate majors. D 16 801 0 0827

810. The Principalship. (3). Designed primarily for individuals who are completing a master's program in educational administration and supervision. Course content focuses on the role expectations of building principals at the elementary, middle and high school levels. Specific work is designed for each student's projected work level. Prerequisite: EAS 801. D 16 810 0 0827

826. Planning, Implementation and Evaluation of School Programs. (3). A study of curriculum philosophies, theories and developmental processes. Included are the following topics: examination of recent programs and proposals, curriculum development at the building and school system levels, and techniques of program evaluation. Prerequisite: EAS 704. D 16 826 0 0828

828. Management and Evaluation of Alternative Programs. (3). A study of the management of organizational patterns appropriate to continuous learning, non-gradingness, individualized instruction, flexible scheduling, team teaching, large group instruction, independent study and other current trends in education. Includes evaluation of children's learning progress and evaluation of and accountability for school administrators, supervisors and teachers. Prerequisite: graduate standing. D 16 828 0 0827

836. School Personnel Management. (3). Advanced study of staff problems—selection and recruitment, certification, orientation, in-service training, evaluation, transfer and dismissal, and retirement. Prerequisite: master's degree or instructor's consent. D 16 836 0 0827

842. School Law. (3). General concepts of law, interpretations of statutes and court decisions affecting education, and legal responsibilities of school personnel. D 16 842 0 0827

843. Kansas School Law. (3). An examination of specific Kansas legislation and court decisions affecting educational institutions and/or national and state issues in school law. Prerequisite: graduate standing. D 16 843 0 0827

852. Special Studies in Educational Administration and Supervision. (1-3). Group studies in new materials, new research or innovations in advanced educational administration and supervision areas for practicing administrators or advanced students. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 16 852 0 0827

854. Financial Support of Education. (3). Concepts of the financial support of education at local, state and national levels. Emphasis is on methods of taxation, budget preparation and efficient expenditures. Prerequisite: EAS 801. D 16 854 0 0827

860. Research Seminar in Educational Administration and Supervision. (3). Designed primarily for students in advanced study with a research orientation. Course content and emphasis are varied according to the needs of students as research proposals and studies are developed, conducted and examined. Prerequisite: completion of master's degree or adviser's consent. D 16 860 9 0824

862. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Repeatable for a maximum 2 hours of credit. Prerequisite: EAS 860. D 16 862 4 0827

871. Group Process for Administrators and Supervisors. (3). A laboratory-based course in which the various aspects of group processing are experienced by class members in a group setting and activities. These experiences for potential and practicing administrators and supervisors have carry-over application to their present and future job responsibilities in an organizational setting. D 16 871 0 0828

875-876. Master's Thesis. (2-2). D 16 875 4 0827; D 16 876 4 0827

878. Organizational Behavior and Development. (3). An examination of applied behavioral science principles as related to the assessment, diagnosis and contemplated change in the role behavior of individuals or groups within an organizational setting. Prerequisite: departmental consent. D 16 878 0 0827

884. School Plant Design and Operation. (3). Planning new educational facilities based upon educational programs. The evaluation of existing schools, remodeling and operation and maintenance of present school plant are included. Prerequisite: master's degree or instructor's consent. D 16 884 0 0827

890. Special Problems in Administration. (1-4). Directed problems in research for master's students primarily under supervision of a graduate instructor. Prerequisite: instructor's consent. D 16 890 3 0827
946, 947, 948, 949. The Internship. (2, 3, 4, 5). Administrative assignment in educational institutions. Prerequisites: 9 semester hours of post-master's graduate courses in educational administration and supervision and 3.10 graduate grade point average. Arranged on an individual basis. D 16 946 2 0827; D 16 947 2 0827; D 16 948 2 0827; D 16 949 2 0827

954. School Business Management. (3). School budgeting processes, salary scheduling, cost accounting and purchasing procedures, and IBM programming of record systems. Prerequisites: EAS 854 and instructor's consent. D 16 954 0 0827

955. Field Project in Administration and Supervision. (2-6). Field projects are planned to meet a legitimate need in an educational setting in which the student, under professional guidance, can become directly involved. The project may fulfill a community need, a departmental concern or a needed investigation or inquiry. Acceptable projects are developmental or must include an appropriate research design. A useful, well-documented report of the project is required, with the plan, format and style approved by the student's committee. Prerequisite: completion of master's degree. D 16 955 2 0827

959. Seminar in the Process of Administration. (1-3). Concurrent enrollment in the internship is required. Arranged on an individual basis. D 16 960 9 0827

963. Politics and Power in Education. (3). An examination of the interaction of society and the school as it relates to the administrative processes. Systems of control, social class, power structure, human relations and group dynamics are studied. D 16 963 0 0827

965. School and Community. (3). A study of the relationships between a school and its community and the administrative responses that show promise of improving relationships between students, staff and sponsors. Students analyze data related to a particular school community to better assess the educational needs of both students and nonstudents and develop more appropriate organizational responses to those needs. D 16 965 0 0827

990. Special Problems in Administration. (1-4). Directed problems in research for specialist and doctoral degree students under supervision of a graduate instructor. Prerequisite: instructor's consent. D 16 990 3 0827

STUDENT PERSONNEL AND GUIDANCE

Courses for Graduate/Undergraduate Credit

652. Student Development. (3). Training for students involved as small-group leaders. Prerequisite: DARE student leader. D 18 652 9 0826

653. Studies in Student Development. (1-2). Designed as a supervised experience for students participating as peer advisers and leaders in developing activities for students entering or assigned to University College. Peer counseling and consulting skills are emphasized. Prerequisites: SPG 652 (old 752H) and DARE student leader. D 18 653 9 0826

655. Studies in Student Services. (1-6). Provides students with training in basic helping skills for paraprofessional counseling. The course involves training and periodic seminars. May be repeated for a maximum of 6 hours credit. Prerequisite: departmental consent. D 18 655 9 0826

750. Workshop in Education. (1-4). D 18 750 2 0826

752. Special Studies in Education. (1-5). (E) recent innovations, (O) other areas. The course is designed for students with personnel and guidance interests. Different preselected areas may be emphasized during a semester. Repeatable with adviser's consent. Prerequisite: instructor's consent. D 18 752 2 0826

756. Guidance Services for the Preschool Child. (3). A study of the social and emotional needs of the preschool child, including an exploration of theory, techniques and materials useful to persons providing guidance services for preschool children and their significant adults. D 18 756 0 0826

Courses for Graduate

Students Only

801. Principles and Philosophy of Guidance. (3). The development of a guidance philosophy, including a study of the helping relationship and the services that are part of school, agency and other institutional settings. D 18 801 0 0826

802. Introduction to Interaction Process. (1). A laboratory approach to an examina-
tion of the counselor's role in the counseling process. The course is designed to assist the prospective counselor increase personal understanding of self as a variable in the counseling process. Prerequisites: SPG majors and instructor's consent. To be taken concurrently with SPG 801. This course may not be taken concurrently with SPG 825. D 18 802 2 0826

803. Counseling Theory. (3). A study of selected theories of counseling. Prerequisite: SPG 801 or concurrent enrollment. D 18 803 0 0826

805. Educating the Poorly Adjusted Individual. (3). Perceptual approach to the problems of emotionally disturbed or delinquent children and youth in both elementary and secondary schools. D 18 805 0 0816

806. Children of Poverty. (3). A perceptual approach to children and youth whose adjustment problems appear to be related to poverty in the affluent society. D 18 806 0 0813

810. Guidance Services for the Elementary School. (2). Examination of the role of the guidance counselor and techniques appropriate to guidance services in an elementary school setting. Prerequisite: SPG 801. Recommended: SPG 805 or SPG 806. D 18 810 0 0826

820. Occupational Information. (2). The classification, collection, evaluation and use of informational materials in a guidance program. Also studied are current occupational trends and developments and theories of occupational choice. Prerequisite: SPG 801 or concurrent enrollment. D 18 820 0 0826

823. Psychometric Procedures in Counseling. (3). Survey and study of standardized tests and their application in counseling, with an emphasis on their selection, use and interpretation. Study is made of the basic concepts pertaining to the interpretation of psychological tests and inventories, including basic measurement theory and the factors involved in the selection of tests. Prerequisites: SPG 801, IS 801 or concurrent enrollment. D 18 823 0 0825

824. Techniques of Counseling. (3). Through simulated counseling situations and extensive examination of counseling case studies, techniques of counseling are examined and practiced. Prerequisite: SPG 803. D 18 824 0 0826

825. Group Techniques in Guidance. (2). Laboratory approach to the study of group formation, process and communication as a tool for guidance services. Prerequisite: SPG 801 or concurrent enrollment. D 18 825 2 0826

833. Administration of Guidance Services. (3). Administration theory, with emphasis for the SPG major on relating theory to the problem of administration of guidance services. Prerequisite: 15 hours of SPG courses. D 18 833 0 0826

846. Practicum: School Psychological Services. (3). Supervised practice in providing psychological services to children in school, clinical and community agency settings. Course requirements include at least 200 hours applied experience. Repeatable for a maximum of 6 hours. Prerequisite: departmental consent. D 18 846 2 0826

852. Special Studies. (1-4). A course covering specific topics identified by the department in consultation with institutions or groups of graduate students. Course procedures vary according to topic. Repeatable. Prerequisite: instructor's or departmental consent. D 18 852 2 0826

855. Individual Intelligence Assessment. (2). Use of individual tests for appraisal of intelligence, adaptive behavior and learning styles. Research and clinical theory are considered in a lecture-discussion format, which includes some case simulation activities. Concurrent enrollment in SPG 870 is recommended. Prerequisites: SPG 823, or concurrent enrollment, and instructor's consent. D 18 855 0 0825

856. Practicum in Individual Counseling. (3). Supervised practice in individual counseling. Course requirements include at least 60 hours applied experience. Repeatable for credit. Prerequisites: SPG 824, admission to the SPG program and instructor's consent. D 18 856 2 0826

857. Seminar in Guidance. (2). Prerequisite: 15 hours in SPG sequence. D 18 857 9 0826

858. Diagnostic Testing. (2). Use of individual tests, rating procedures and behavioral techniques for the appraisal of perceptual development, linguistic development, classroom behavior and academic skills. Assessment theory and research relevant to these areas are considered in a lecture-discussion format, which includes some case simulation activities. Concur-
rent enrollment in SPG 870 is recommended. Prerequisites: SPG 823 and instructor's consent. D 18 856 2 0825

862. Presentation of Research. (1-2). A project submitted in thesis manuscript form. Repeatable for a maximum of 2 hours of credit. Prerequisite: IS 860. D 18 862 4 0826

864. Personality Assessment. (2). An introduction to projective techniques in which both clinical theory and current research are considered in relation to data from other sources, such as direct behavioral observations, rating scales, case histories and personality inventories. Concurrent enrollment in SPG 870 is recommended. Prerequisites: SPG 823 and instructor's consent. D 18 864 0 0825

866. Practicum in Guidance Services. (3). Supervised practice in administration, test interpretation, group counseling and other activities of the guidance department. Prerequisites: SPG 833 and instructor's consent. D 18 866 2 0826

867. Practicum in Group Guidance and Counseling Methods. (3). Supervised practice in group guidance and group counseling. Repeatable for 3 hours of additional credit. The second practicum must be in a different area or have a different focus from that of the first. Prerequisites: SPG 825, 856 and instructor's consent. D 18 867 2 0826

870. Assessment Practicum. (2). Supervised experience in the administration, scoring and interpretation of individual assessment techniques in a school, agency or institutional setting. Report writing and case consultation also are considered in terms of the information needs of the referral agent. Repeatable to a maximum of 6 hours credit if students have completed appropriate courses from the lecture-discussion portion of the assessment sequence. Prerequisites: SPG 823; concurrent enrollment in SPG 855, or 858, or 864; or successful completion of one or more of these courses or their equivalent; and instructor's consent. D 18 870 2 0825

875-876. Master's Thesis. (2-2). D 18 875 4 0826; D 18 876 4 0826

877. Internship: School Psychology. (3-6). The internship is normally a part-time placement in a setting within an agency, institution or school providing psychological services to children. Course requirements include at least 120 hours applied experience. Prerequisites: SPG 846 and departmental consent. D 18 877 2 0826

881. Seminar in School Psychology. (1). Current trends and issues within the area of school psychology will be examined. Alternative role models for the school psychologist will also be considered from the standpoint of research and program development in related areas such as special education, general education and professional psychology. Repeatable to a maximum of 4 hours. Prerequisite: SPC 801 or concurrent enrollment. D 18 881 9 0826

890. Special Problems in Guidance. (1-4). Directed reading and research under the supervision of a graduate instructor. Prerequisite: departmental consent. D 18 890 3 0826

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. D 18 903 0 0826

914. Consultation Techniques. (3). Intensive study of the literature in counseling, social psychology and administration that provides a basis for consultation techniques in the interpersonal context of school and work settings. D 18 914 0 0826

915. Intervention Design. (2). Designed to give the student further experience and skill in utilizing theories of interpersonal relations in creating macro- and micro-learning experience designs for individuals or groups experiencing dysfunctional situations. Individual and organizational effectiveness assessment skills are stressed. D 18 915 0 0826

926. Seminar: Selected Topics. (2). Intensive study of current issues, techniques, research and application of the selected topic. Repeatable for different topics for a maximum of 8 hours. Prerequisite: 15 hours of related graduate coursework. D 18 926 9 0826

928. Seminar: Postsecondary Student Services. (2). Intensive study of issues, theories, approaches, research in topics related to postsecondary student services. Repeatable for different topics for a maximum of 8 hours. D 18 928 9 0826

947. Internship: Internal or External. (6-8). 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 placement interaction experiences in a variety of settings designed to develop expertise in interpersonal consulting. 24 units. D 18 947 2 0826

College of Education/Personnel Services 159
Physical Education, Health and Recreation

The Department of Physical Education, Health and Recreation offers both a professional program and a service program.

PROFESSIONAL PROGRAM REQUIREMENTS

Admission. All prospective majors in the Department of Physical Education, Health and Recreation must file a formal application for admission to the department. They may file at any time after enrolling at Wichita State, but they may not file later than the date they apply for admission to the College of Education. Application forms may be obtained in the department office, 101 Henrion Gymnasium.

State Certification. For state certification a physical education major consists of 24 semester hours, including a minimum of 18 semester hours in physical education, at least one course in human anatomy and one course in human physiology. At least 6 semester hours must be taken in each of these areas: (1) skill courses in physical education activities, (2) theory courses in sports and/or dance, and (3) theory courses in physical education.
Core Requirements. Each physical education major must complete 30 hours in the physical education core, which includes PE 111, 115, 117, 270, 328, 329, 530, 533, 544 and Dance 212.

Areas of Specialization. All physical education majors are required to complete one area of specialization, either elementary, secondary or the field option as follows:

Area 1—Elementary—20 hours, including:
PE 200, 325, 326, 327, 515 and Ind. Ed. 170

Area 2—Secondary—20 hours, including:
PE 206, 248, 311, 312, 337, and 253 and 254 for women, and 220 and 244 for men

Area 3—Athletic Training—18 hours beyond the secondary certificate, including:
PE 260, 331, 430, 431, 432 and HS 331

Area 4—Health, Physical and Recreation—field option
All candidates for the field option must complete 50 hours in the physical education area. These 50 hours consist of designated required hours and selected elective hours as given in literature provided by the department. For a checklist and additional information, contact the Department of Physical Education, Health and Recreation.

Physical education majors may select both secondary and elementary areas of specialization by completing the hours in both areas and student teaching in both areas.

Area of Concentration. Several areas of concentration are offered in the department. Students—major or nonmajor—may select specific courses within an area of concentration or may choose to complete the entire area. Students interested in dance should see the College of Fine Arts, Dance section of the Catalog. Requirements and courses for these areas are given below.

1. Driver's education (state certification)—18 hours
   Required: Psych. 111 and PE 210, 300 and 301
   Electives: 6 semester hours in the following areas: visual education, auto mechanics, sociology or courses dealing with human relations, such as American democracy, law enforcement, traffic problems, motorcycle safety and court procedures

2. Recreation—17 hours
   PE 202, 226, 528; Soc. 226; Psych. 347; and Dance 212

3. Health—22-23 hours (state certification)
   PE 115, 117, 500, 502, 504; Biol. 120, 223; and IS 447

4. Coaching (certification)—20 hours
   Required: PE 331, 336, 337, 530, 570, and 220 and 345 for men, and 253 and 334 for women
   Elective: 3 hours may be selected from the following:
   PE 206, 248, 311, 312, 244 for men and 254 for women, or any three classes from 101, 102, 103, 104, 105, 106, 107, 108 or 110

5. General
   A physical education major can develop an area of concentration or take hours for graduation from some other academic area.
SERVICE PROGRAM

Physical education activity courses carry 1 hour of credit. They fall into nine areas.

Lower Division Courses

Physical Education Activity Courses.
101. Team Activities. (1). D 13 101 5 0835
102. Individual Activities. (1). D 13 102 5 0835
103. Combatives. (1). D 13 103 5 0835
104. Dance Activities. (1). D 13 104 5 0835
105. Gymnastics. (1). D 13 105 5 0835
106. Fitness Activities. (1). D 13 106 5 0835
107. Aquatics. (1). D 13 107 5 0835
108. Combined Activities. (1). D 13 108 5 0835
110. Varsity Activities. (1). D 13 110 5 0835

PROFESSIONAL COURSES

Professional courses for physical education, health and recreation are offered in the College of Education and, unless otherwise indicated, are open to both men and women.

Lower Division Courses

111. Introduction to Physical Education. (2). A survey study of health, physical education and recreation as to their identification, purpose and interrelationship in the total field of education. D 13 111 0 0835
115. Personal and Community Health. (3). D 13 115 0 0837
117. First Aid. (2). Standard and/or advanced first aid with certification by the American Red Cross. D 13 117 0 0837
150. Workshop. (3). D 13 150 2 0835

290. Observation in Physical Education. (1). A course that provides students with observation experiences in selected elementary schools. D 13 200 1 0835


206. Aquatics. (2). 1R; 2L. An introduction to aquatic techniques and an orientation to all levels of aquatics that enable individuals to manage themselves adequately and satisfactorily in water. Prerequisite: PE 107A or departmental consent. D 13 206 0 0835

210. Safety Education. (3). A general survey of the field of safety. Emphasis is on the philosophical implications, psychological considerations, concepts safety instruction and safety program development. Culminates with the different areas of safety concern being analyzed in terms of needs, development and trends. D 13 210 0 0836

220. Officiating Techniques for Men's Sports. (3). Theory, rules and mechanics of officiating major sports common to the high school and college athletic programs. D 13 220 1 0835


226. Introduction to Community Recreation. (2). A study of the philosophy, origin and development of modern recreation programs. D 13 226 0 0835

244. Body Mechanics and Gymnastics for Men. (3). A fundamental and laboratory course in gymnastics designed to aid the physical education major in the ability to teach and coach this activity. Prerequisite: PE 105A. D 13 244 1 0835

248. Methods and Techniques I. (3). 3R; 2L. Emphasis upon methods, teaching progression, analysis and skill development. Activities include: softball, football, field hockey and basketball. Prerequisites: service courses in softball, football, field hockey and basketball, or passing skills proficiency exam in the above activities. D 13 248 1 0835

253. Officiating Techniques for Women's Sports. (3). Includes the study of the philosophies and standards of KSHSAA, officiating techniques, basic skills, testing procedures and laboratory work. Prerequisite: basketball and volleyball or departmental consent. D 13 253 1 0835

254. Body Mechanics and Gymnastics for Women. (3). Principles of body mechanics and application to gymnastics, including free exercise, apparatus and trampoline. Prerequisite: PE 105A or departmental consent. D 13 254 2 0835

260. Adaptive Physical Education. (3). 2R; 2L. Designed to assist the students in developing the necessary skills for the implementation of enjoyable physical activity into the lives of persons (preschool to senior citizen) impaired, disabled or handicapped. In addition to classroom work, the students will participate in at least 2 hours per week in observations and physical activity with persons impaired, disabled or handicapped. D 13 260 0 0818

270. Motor Learning. (3). The introduction and examination of the physiological and psychological factors that affect the acquisition of motor skills. D 13 270 1 0835

Upper Division Courses

300. Basic Driver Education and Training I. (3). D 13 300 0 0836

301. Advanced Driver Training II. (3). D 13 301 2 0836

311. Methods and Techniques II. (3). 3R; 2L. Emphasis upon methods teaching progression, analysis and skill development. Activities include: soccer, wrestling, archery and volleyball. Prerequisites: service courses in soccer, wrestling, archery and volleyball, or passing skills proficiency exam in the above activities. D 13 311 1 0835

312. Methods and Techniques III. (3). 3R; 2L. Emphasis upon methods teaching progression, analysis and skill development. Activities covered include golf, tennis, badminton and bowling. Prerequisites: service courses in golf, tennis, badminton and bowling, or passing skills proficiency exam in the above activities. D 13 312 1 0835

The following abbreviations are used in the course descriptions; R stands for lecture and L for laboratory. For example, 1R; 2L means 1 hour of lecture and 2 hours of lab.
325. Preschool Physical Education. (3). 3R; 2L. The first of a three-course series designed for a major in physical education with an emphasis in elementary school physical education. The course content focuses on the development of preschool children. Emphasis is placed on designing learning activities that will enhance the development of their movement awareness, motor patterns and perceptual-motor skills. The course includes 15 hours of laboratory experiences in day care centers. D 13 325 0 0835

326. Physical Education in the Primary Grades. (3). 3R; 2L. The second in the series designed for an emphasis in elementary school physical education. It focuses on developmental movement activities for children in grades K-3. The course includes 15 hours of laboratory experiences with primary school children. D 13 326 0 0835

327. Physical Education in the Intermediate Grades. (3). 3R; 2L. The final course in the series designed for an emphasis in elementary school physical education. The course assists students in developing the necessary skills to teach physical education in grades 4, 5 and 6. The course includes 15 hours in laboratory experiences with intermediate grade school children. D 13 327 0 0835

329. Applied Human Anatomy. (3). 3R; 1L. A study of the structure and function of the skeletal and muscular systems of the human body, with direct application to body movements in physical activities. D 13 329 1 0835

331. Athletic Injuries and Training Techniques. (2). 2R; 1L. Injuries common to athletic activities, emphasizing prevention, first aid, treatment and care as prescribed by the team physician. D 13 331 1 0835

334. Theory and Organization of Softball and Volleyball. (2). The theory, organization, responsibilities and techniques of coaching softball and volleyball. D 13 334 0 0835

336. Theory and Organization of Basketball. (2). The theory, organization, responsibilities and techniques of coaching basketball. D 13 336 0 0835

337. Theory and Organization of Track and Field. (2). The theory, organization, responsibilities and techniques of coaching track and field. D 13 337 0 0835

345. Theory and Organization of Football. (2). The theory, organization, responsibilities and techniques of coaching football. D 13 345 0 0835

410. Advanced Athletic Training Techniques I. (3). A study of professional relationships, pharmacology, injuries specific to the upper and lower extremities, and related training problems. D 13 410 0 0835

411. Advanced Athletic Training Techniques II. (3). A course emphasizing athletic injuries of the head, neck and trunk. Special problems, nutrition and exercise programs are also studied. Development of advanced athletic training skills. D 13 411 0 0835

342. Athletic Training Lab I, II, III, IV. (1). IL. A laboratory course designed to provide practical learning experiences in the prevention, first aid and care of athletic injuries. May be repeated. D 13 432 1 0835

Courses for Graduate/Undergraduate Credit

500. Health Education. (2-3). Health problems and organization of materials for health instruction. Individual projects are required for graduate students. D 13 500 2 0837

502. Applied Health I. (2). Introduction to public health problems and practices. Field excursions are arranged. Prerequisite: departmental consent. D 13 502 2 0837

504. Applied Health II. (2). Intensive study of selected health problems with regard to illness prevention and the present state of world health. Prerequisite: PE 502 or departmental consent. D 13 504 2 0837
526. Community Recreation. (2). The organization and administration of community recreation. Prerequisite: PE 226. D 13 526 1 0835

528. Camp Administration. (3). Modern practice in camp organization, program building, business practices, staff training and guidance. Problems in camping administration are considered. D 13 528 0 0835

530. Physiology of Exercise. (3). To provide the student with a working knowledge of human physiology as it relates to exercise. D 13 530 1 0835

533. Tests and Measurement in Physical Education. (3). A study of the modern practices utilized in the total evaluation of physical education programs; included in the course content: (1) basic statistical procedures, (2) evaluating students, (3) evaluating teaching and (4) a survey of measurement tools. D 13 533 0 0835

544. History, Philosophy, Curriculum and Administration. (4). 5R. History, philosophy and objectives of physical education. The organizational and administrative problems of the health and physical education programs and the management of the physical plant and curriculum are examined. D 13 544 2 0835

570. Psychology of Sport. (3). An in-depth analysis of the psychology of motor learning and its implications for the teacher-coach. D 13 570 0 0835

590. Independent Study. (1-3). Prerequisite: departmental consent. D 13 590 0 0835

750. Workshop in Education. (1-4). D 13 750 2 0835

752. Special Studies in Health, Physical Education and Recreation. (1-3). Group study in a preselected area of health, physical education or recreation. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 13 752 0 0835

Courses for Graduate Students Only

800. Recent Literature in Health, Physical Education and Recreation. (3). Survey and critical analysis of research and other pertinent materials in the field. D 13 800 0 0835

801. Seminar in Sports Administration. (3). An examination and discussion of the factors that affect the teaching-learning process applicable to physical education. Emphasis is on individual understanding and improvement as students analyze their own teaching effectiveness. D 13 801 5 0837

810. Adapted Physical Education. (3). Philosophy, principles and methods of adapting physical education and recreational activities to the needs of the handicapped and the exceptional individual. Laboratory experience is provided. Prerequisite: PE 328 or departmental consent. D 13 810 1 0819

812. Advanced Techniques in Physical Education. (3). Comprehensive coverage of selected physical activities, with special emphasis on class procedures. Laboratory experiences are included. D 13 812 1 0835

825. Physical Education in Elementary Schools. (2). New concepts, recent trends, methodology, programming and supervision. This course is designed for the elementary teacher and physical education specialist. D 13 825 0 0835

840. Seminar in Advanced Methods. (2). An examination and discussion of the factors that affect the teaching-learning process applicable to physical education. Emphasis is on individual understanding and improvement as students analyze their own teaching effectiveness. D 13 840 9 0835

847. Internship. (6-12). Internship in selected area of specialization of the sports administration program. Prerequisite: departmental consent. D 13 847 2 0835

860. Research Methods in Health, Physical Education and Recreation. (3). An introduction to research in health, physical education and recreation. Included in the course content are: (1) importance and meaning of research, (2) a literature search, (3) laboratory and nonlaboratory studies and (4) the research report. D 13 860 0 0835

875. Thesis. (2). Prerequisites: IS 704 and PE 860. D 13 875 4 0835

876. Thesis. (2). Prerequisites: IS 704 and PE 860. D 13 876 4 0835

880. Analysis of Motor Skills. (3). Movement and sport skills analyzed in terms of mechanical principles by means of films and experimentation. D 13 880 0 0835

890. Problems in Health, Physical Education and Recreation. (1-4). Directed reading and research under supervision of a graduate instructor. D 13 890 3 0835
George Rickey, *Two Lines Oblique Down Variation III*
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.

Wichita State engineering students are offered a basic core of knowledge, including scientific and analytical tools needed to cope with realistic problems they may face in a professional engineering career.

Due to the diverse nature of engineering subject material, the College of Engineering is organized into several degree-granting departments: aeronautical, electrical, industrial and mechanical. Undergraduate programs in these departments lead to the Bachelor of Science in each of these areas. A degree program for the Bachelor of Science in Engineering (BSE) also allows students to pursue in-depth studies in additional fields, such as computer science, bioengineering, engineering management, as well as other interdisciplinary programs. A program leading to the Bachelor of Engineering Technology (BET) is offered to students who are seeking an application-oriented curriculum and planning to enter engineering support occupations.

For all programs except the BET, the curricula of the various undergraduate departments contain a large portion of common courses for two years, with provisions for specialized departmental offerings in the following years. Students are allowed ample flexibility within their major field of study to select areas outside the engineering core subjects. Detailed program requirements for majors in the various engineering fields are given under the course sequences listed in this section of the Catalog.

A Master of Science (MS) is offered in aeronautical, electrical and mechanical engineering, and a Master of Science in Engineering Management Science (MSEMS) is offered by the industrial engineering department. A Master of Science (MS) option in industrial engineering is available under the mechanical engineering department for students interested in classical industrial engineering applications. A Doctor of Philosophy (PhD) program in the areas of fluid mechanics-aerodynamics, structures-dynamics, control systems (digital) and en-
ergy conversion (propulsion) is also available. See the Wichita State University Graduate School Bulletin for more information about the graduate program.

The programs in engineering are offered in daytime and evening classes, and the courses are the same whether they are taught in the daytime or at night. The outlines of the departmental programs given on the following pages are arranged for full-time students and contain all the requirements for the various undergraduate degrees.

The curricula of the aeronautical engineering, electrical engineering, industrial engineering and mechanical engineering departments are accredited by the Engineers' Council for Professional Development.

Entrance Requirements

Students may enter the College of Engineering from University College, other degree-granting colleges within the University or other universities and colleges, provided they have completed 24 semester credit hours with a 2.00 grade point average.

Students with fewer than 72 credit hours and less than a 2.00 but more than a 1.70 grade point average will be admitted to the College of Engineering on probation provided they have not been academically dismissed from the last school they attended. Students with more than 72 credit hours and less than a 2.00 grade point average will be admitted on probation provided they have not been academically dismissed from the last institution attended, subject to the approval of the College of Engineering Exceptions Committee.

Entering engineering students should note that Math. 242 is a first-semester requirement in the engineering sequence of courses. In order to take Math. 242, students must have taken Math. 112 or the equivalent.

Math. 112. Precalculus Mathematics. (5). Functions, theory of equations and inequalities, complex numbers, the trigonometric functions, exponential and logarithmic functions, and other standard topics prerequisite to a beginning study of calculus. Prerequisites: 1 1/2 units of high school algebra or Math. 011 and 1 unit of high school geometry or Math. 021. Credit is allowed only in one of the three courses: Math. 109, 111 or 112. A 20 112 0 1701

Math. 242. Calculus I. (5). Analytic geometry and the calculus in an interrelated form. Prerequisites: Math. 112 with a C or better or 2 units of high school algebra and 1 unit of high school geometry and 1/2 unit of high school trigonometry, or Math. 123 and either 109 or 111 with a C or better in each. A 20 242 0 1701

Engineering students who have not had high school physics are permitted to register for Phys. 313 if the mathematics prerequisite has been fulfilled. Since most students in Phys. 313 have had some preparatory physics, students without this background should plan for extra study time in this course. Engineering students who have not had high school physics are permitted to register for Phys. 213. These students are then required to take Phys. 314 when they have fulfilled prerequisites for this course, which are: Math. 243, with a grade of C or better, and Phys. 213, with consent of the physics department.
Probation and Dismissal Standards

PROBATION

Students are placed on probation for the next term in which they enroll if their cumulative grade point average falls below 2.00 and if they have attempted 12 hours at Wichita State University. (Attempted hours are defined as all hours appearing on the transcript with a grade of A, B, C, D, F, P, W, Cr, NCr, I, S or U). Even though they earn a 2.00 grade point average in the term during which they are on probation, probation is not removed until their cumulative grade point average reaches 2.00. Probation is removed when the cumulative grade point average reaches the required level.

Students are also placed on probation for the next term in which they enroll if their engineering major grade point average falls below 2.00 (the engineering major consists of the courses required by a student's engineering department, including the core courses). Students remain on probation even though they earn at least a 2.00 engineering major grade point average in the term during which they are on probation if their cumulative engineering major grade point average does not yet meet the minimum standards. Probation is removed when the engineering major grade point average reaches the required level. Students may not be placed on probation until they have attempted 12 or more hours in their major at Wichita State.

Students on probation for not meeting either the required cumulative or the required engineering major grade point average may not enroll for more than 12 semester hours in an 18-week term or 6 semester hours in Summer Session, excluding 1 hour of military science, physical education or marching band. Exceptions to this limitation may be made on the recommendation of the student's adviser, with the approval of the student's dean. Such exception is to be recorded by the University's Committee on Admissions and Exceptions.

ACADEMIC DISMISSAL

Students are subject to academic dismissal from the College of Engineering when they are on probation because their cumulative grade point average is below 2.00 as noted below. Students on probation because of a deficient cumulative grade point average may not be placed on academic dismissal for failure to raise their average until they accumulate 12 or more attempted hours after being placed on probation. Students who fail to receive a 2.00 grade point average in these 12 or more attempted hours taken after being placed on probation will be dismissed. Students are not academically dismissed at the end of a semester unless they began that semester on academic probation.

Students are also subject to dismissal when they are on probation because their cumulative engineering major grade point average and
their engineering major grade point average for the term during which they are on probation are below 2.00. Students on probation because of a deficient engineering major grade point average may not be placed on academic dismissal for failure to raise this average until they attempt three or more engineering major courses. At that time, the cumulative engineering major grade point average, including the hours for the last three or more attempted engineering major courses, is used to determine whether or not they should be academically dismissed.

**READMISSION**

Students who have failed to meet the necessary scholastic requirements and have been academically dismissed may apply to the College of Engineering Exceptions Committee for readmission consideration. It is the student's responsibility to supply the committee with sufficient reason for readmission consideration.

**OTHER REGULATIONS**

Students are expected to maintain at least a 2.00 average in all work for which they are registered for credit during any semester. Failure to maintain this standard implies that the student's program should be limited.

Students must file an application for degree card in the engineering dean's office in the semester preceding their final semester.

Students are not allowed credit toward graduation for D grade work in excess of one-quarter of their total hours. At midsemester reports of unsatisfactory grades are sent to the students.

**Academic Guidelines**

**UNIVERSITY REQUIREMENTS**

For new freshman students entering the University, requirements for the College of Engineering are:

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication skills</td>
<td>9</td>
</tr>
<tr>
<td>Humanities and fine arts, and social and behavioral sciences *</td>
<td>17 with no fewer than 6 in either division</td>
</tr>
<tr>
<td>Mathematics and natural sciences</td>
<td>Satisfied by college requirements</td>
</tr>
<tr>
<td>Professional studies</td>
<td>Satisfied by college requirements</td>
</tr>
</tbody>
</table>

* In each of these divisions courses must be taken in at least two departments. Note: At least 8 hours of General Studies courses must be taken to satisfy University requirements.
General Engineering Requirements

Except for BET students, all engineering students follow the same general curriculum for the first two years. For administrative purposes, students are requested to choose a departmental curriculum in which to study, but they may change to another curriculum during this period without losing credit toward graduation. All engineering programs are designed to meet ECPD accreditation criteria and must include:

1. The equivalent of approximately $2\frac{1}{2}$ years of study in the area of mathematics, science and engineering. The course work should include at least $\frac{1}{2}$ year of mathematics beyond trigonometry, plus $\frac{1}{2}$ year of basic sciences, 1 year of engineering sciences and $\frac{1}{2}$ year of engineering design.

2. The equivalent of $\frac{1}{2}$ year as the minimum content in the area of the humanities and social sciences. While the objective of a broad, liberal education is served through independent humanities and social science courses, courses treating such subjects as accounting, industrial management, finance, personnel administration, introductory language and ROTC studies do not fulfill this objective. Likewise, skills, theory and technical courses in fields such as musicology, linguistics and speech do not fulfill the humanities/social science objective. If there are questions regarding the selection of specific courses, contact the engineering records office for assistance and interpretation.

Each of the engineering curricula consists of three parts: (1) the general education requirements of the University, (2) an engineering core program and (3) specialized departmental courses.

To satisfy the general education requirements of the University, the student must complete courses in the following two divisions: (1) Division A, Humanities and Fine Arts, and (2) Division B, Social and Behavioral Sciences. A minimum of 6 hours is required in either of the two divisions, and courses must be taken in at least two departments in each division. At least 8 hours of General Studies courses must be taken to satisfy University requirements. For a more detailed description of general education requirements, see the Academic Information-General Education Program section of the Catalog.

Every engineering student is required to complete a total of 19 hours of courses from the following engineering core courses. Some of these courses are required as prerequisites for the departmental offerings; the remainder of courses should be selected in consultation with a faculty adviser.

Engineering Core (19 Hours Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engr. 125, Introduction to Engineering Concepts</td>
<td>2</td>
</tr>
<tr>
<td>AE 323, Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>AE 373, Engineering Mechanics: Dynamics I</td>
<td>3</td>
</tr>
</tbody>
</table>
In addition to the engineering core requirements, students must complete:

1. A minimum of 33-34 hours of engineering science, depending upon curriculum
2. A minimum of 17 hours of design, synthesis or systems engineering
3. A minimum of 25 hours of engineering courses taken outside their major department
4. 26 hours of University requirements as described earlier
5. A minimum of 17 hours of mathematics and 17 hours of natural sciences
6. A minimum of 17 hours of humanities and social sciences.

The recommended sequence of courses for engineering students in all departments is outlined later in this section. Each sequence has been planned so that students can complete the program in the minimum time and can satisfy all University course requirements and prerequisites for engineering students. Students should discuss any desired deviation from this sequence with an engineering faculty adviser.

Students who have a 2.50 overall grade point average may elect to enroll under the A/Pass/Fail option in a total of three regularly graded courses outside their major or supporting minor area. Under this option the grade for the course is recorded as A if class performance is at this level, and P if performance is at the B, C, or D level. Failures are recorded as F. Students enrolled before fall, 1973, who have not used up the maximum number of 24 semester hours in the credit/no credit option may enroll in a maximum of three courses under the A/Pass/Fail option provided that the total number of hours they have taken under both options does not exceed 24 hours.

* All courses in the Wichita State University Catalog sequence of courses (courses required for graduation designated by a course number) are considered as required courses for a student’s major. In technical elective courses, a course will be considered a major if taken in the department in which the student is majoring.

Interdisciplinary Fields (Bachelor of Science in Engineering)

The College of Engineering offers special 132 to 135-hour programs designed to help students who wish to pursue studies in interdisciplinary fields. The Bachelor of Science in Engineering (BSE) program, which is offered by the college in addition to its programs in mechanical, electrical, industrial and aeronautical engineering, permits the development of combinations of specialities while providing for other fields of knowledge and expertise. The BSE program, along with the other programs, offers students a flexibility in engineering education.
that matches the intricacy of the society with which engineers must deal.

The BSE program is designed to meet the needs of students who wish to pursue studies in specific fields, such as computer science/computer engineering, premedical/biomedical engineering, engineering management, engineering analysis or other special engineering areas. Students in this program meet essentially the same basic requirements as other engineers do in three years of study and then complete courses—either inside or outside of the College of Engineering—for their specialized interests.

The BSE program is administered by a committee, with the dean of engineering as chairperson. All applicants for the BSE are referred to this committee, which assigns an engineering faculty adviser for each student. All student programs must be approved by the committee. The Office of Engineering Records has the details for student advising. The University requirements and engineering course requirements selected must be consistent with the following requirements. The speciality field must have a focus (depth) and consist of a select number of courses for specified areas. All students in satisfying the academic guidelines, are expected to undertake a senior project during their last year of study. The project should be in the student’s chosen field and be cosponsored by an engineering adviser and an adviser from the student’s speciality field. Projects under a joint adviservship promote and encourage students to undertake meaningful and realistic projects that can result in a mutual understanding in the proposed fields of study.

Typical programs are in the following areas: engineering—computer science/computer engineering; engineering—engineering management; engineering—premedical/biomedical engineering; and engineering—engineering analysis.

For the BSE, the University requirements and general engineering requirements are the same as described in the previous two sections.

**COMPUTER SCIENCE**

Students can major in computer science while pursuing either the Bachelor of Science in Engineering (BSE) in the College of Engineering or the Bachelor of Science (BS) in Fairmount College of Liberal Arts and Sciences. Details of the requirements for the computer science major in the BSE program are given below. A total of 132 hours is required for graduation.

**Basic Requirements for the Computer Science Major (BS or BSE).**

All students majoring in computer science must complete a minimum of 30 hours of computer science courses, at least 24 of which must be in upper division courses. These courses must include CS 602 and 695. The suggested sequence of courses is given in the accompanying table.
### FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Math. 242, Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 111, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>EE 199, Engineering Computing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>Engr. 100, Engineering Perspectives</td>
<td>1</td>
</tr>
</tbody>
</table>

#### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 243, Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>Phys. 313, Classical College Physics</td>
<td>5</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or</td>
<td>3</td>
</tr>
<tr>
<td>Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Math. 311, Introduction to Linear Algebra I</td>
<td>1</td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>CS 592, Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts elective †</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Second Semester

<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. 314, Classical College Physics Lectures II §</td>
<td>4 or 5</td>
</tr>
<tr>
<td>AE 323, Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>CS 591, Introduction to Discrete Structures</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 102, College English II</td>
<td>3</td>
</tr>
</tbody>
</table>

### SOPHOMORE

<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>EE 594, Logic Design and Switching Theory</td>
<td>3</td>
</tr>
<tr>
<td>CS 598, Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>IE 354, Engineering Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral sciences elective †</td>
<td>3</td>
</tr>
</tbody>
</table>

#### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 585, Electrical Design Project I</td>
<td>1</td>
</tr>
<tr>
<td>CS 602, Computer System Software</td>
<td>3</td>
</tr>
<tr>
<td>CS 695, Numerical Methods I</td>
<td>3</td>
</tr>
<tr>
<td>Technical elective</td>
<td>6</td>
</tr>
<tr>
<td>Social and behavioral sciences elective †</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 361, Fluid and Heat Flow</td>
<td>4</td>
</tr>
<tr>
<td>EE 694, Digital Computer Design Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>Computer science elective †</td>
<td>3</td>
</tr>
<tr>
<td>Natural sciences elective</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts elective †</td>
<td>3</td>
</tr>
</tbody>
</table>

### JUNIOR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 595, Engineering Mechanics: Dynamics I</td>
<td>3</td>
</tr>
<tr>
<td>CS 602, Computer System Software</td>
<td>3</td>
</tr>
<tr>
<td>Technical elective</td>
<td>6</td>
</tr>
<tr>
<td>Social and behavioral sciences elective †</td>
<td>4</td>
</tr>
</tbody>
</table>

#### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 595, Electrical Design Project II</td>
<td>1</td>
</tr>
<tr>
<td>Computer science elective †</td>
<td>3</td>
</tr>
<tr>
<td>Technical elective</td>
<td>8</td>
</tr>
<tr>
<td>Social and behavioral sciences or humanities elective †</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 595, Electrical Design Project II</td>
<td>1</td>
</tr>
<tr>
<td>Computer science elective †</td>
<td>3</td>
</tr>
<tr>
<td>Technical elective</td>
<td>8</td>
</tr>
<tr>
<td>Social and behavioral sciences or humanities elective †</td>
<td>4</td>
</tr>
</tbody>
</table>
Lower Division Courses

100. Engineering Perspectives. (1). An introductory course for freshman students with an interest in science and engineering. Lectures, tours and demonstration of laboratories and computing equipment are held. The course is taught in small-group sessions. Grade for the course is credit/no credit. Prerequisite: not open for enrollment to students with more than 32 hours or credit in Engr. 125. E 10 100 1 0901

101. Introduction to Computing Methods. (1). Introduction to computing methods and FORTRAN programming, utilization of Digital Computing Center facilities, application of computers to technological problems and familiarization with engineering laboratories. Grade for the course is credit/no credit. E 10 101 1 0901

125. Introduction to Engineering Concepts. (2). 4L. An introduction to the orderly approach to problem solving used in engineering by guiding the student through a comprehensive design project. Emphasis is put on problem formulation and solution techniques as they are required in the design project. Prerequisites: freshman standing with 1½ units of high school algebra. Not open for enrollment to students with more than 48 hours of credit. E 10 125 1 0901


Upper Division Courses

300G. Technology and Society. (3). A course to demonstrate and explain—in depth but without technical jargon— developments in technology. Emphasis is placed upon conceptual understanding of interrelationships between technology and its users. Responsibility of nontechnologists to be familiar with technical developments in order to effectively control technology for survival and enrichment is stressed. Guest lecturers and demonstrations are used extensively. For nonengineering majors; no credit is given toward any major in engineering. Prerequisite: upper division standing. E 10 300G 0 0901

400. System Modeling. (3). A consideration of interdisciplinary subjects to analytically develop simple models of real systems. These models are then fully exploited to show similarities between systems performance and analysis techniques. Examples are taken from anthropology, sociology, economics and technology. Senior standing recommended. Prerequisite: instructor's consent. E 10 400 0 0901

410. Professional Development I. (3). A course to review engineering fundamentals in conjunction with the topics covered in the Engineer-in-Training Examination and does not satisfy credit requirements for engineering degree. Prerequisite: engineering degree or instructor's consent. Offered for credit/no credit only. E 10 410 0 0901

Course for Graduate/Undergraduate Credit

565. Computer Graphics. (3). 2R; 2L. Forms of computer graphics, input-output devices, generation of points, vectors, etc. Included are interactive versus passive graphics and the mathematics of three dimensions, projectives and the hidden line problem. Animated movies, computer-aided design and instruction are included as well as applications. Prerequisites: Math. 344, EE 399 or equivalent or AE 327, or equivalent. E 10 565 1 0901

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R; 2L means 2 hours of lecture and 2 hours of lab.

College of Engineering 175
Aeronautical Engineering

Rapid progress in development of subsonic airplanes, supersonic aircraft, helicopters, space vehicles and other high-speed transportation systems present challenging opportunities for engineers interested in research, development and design.

The aeronautical engineering curriculum at Wichita State offers students opportunity to develop strong fundamental knowledge of mathematics, physics and engineering sciences and to acquire competence in professional fields such as aerodynamics, flight mechanics, propulsion, control systems, structures and simulation techniques. Fundamental principles involved in aeronautical engineering are emphasized so that graduates are prepared to contribute to this rapidly changing and expanding field. Engineers trained in this field also find challenging careers in other industries that use many advanced concepts similar to those developed in the aeronautical field, including engines and propulsion, light-weight structures and fluid mechanics.

Both the educational and research programs of the aeronautical engineering department specialize in the study of winged vehicles for flight in the atmosphere. Wichita is a major center of aviation; more aircraft are built in Wichita than anywhere else in the world. Many upperclass students work during the summer at local plants of Beech Aircraft Corporation, Boeing Wichita Company, Cessna Aircraft Company or Gates Learjet Corporation.

Also a number of graduate and undergraduate students work with professors on research projects. Some projects, financed by NASA, concern the subjects of developing and testing new airfoils and control
surfaces and investigation of aircraft stalls and spins. The well-equipped aeronautical laboratories include the Walter H. Beech Wind Tunnel, which is one of the largest and most modern on any campus in the United States.

While aviation has a continuing need for engineers, some aeronautical engineers are finding their education an excellent base for careers in allied fields, such as conversion of wind energy and control of noise and of air and water pollution.

The undergraduate program requires the completion of 133 semester hours for graduation, minus advanced placement credit. The suggested course of study for aeronautical engineering students is given in the accompanying table.

<table>
<thead>
<tr>
<th>FRESHMAN</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td>Hrs.</td>
<td>Course</td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
<td>Eng. 102, College English II</td>
</tr>
<tr>
<td>Math. 242, Calculus I</td>
<td>5</td>
<td>Math. 243, Calculus II</td>
</tr>
<tr>
<td>Chem. 111, General Chemistry</td>
<td>5</td>
<td>Engr. 125, Introduction to Engineering Concepts</td>
</tr>
<tr>
<td>IE 110, Engineering Graphics I</td>
<td>2</td>
<td>IE 213, Engineering Graphics II</td>
</tr>
<tr>
<td>Engr. 100, Engineering Perspectives</td>
<td>1</td>
<td>Phys. 311, Classical College Physics I</td>
</tr>
<tr>
<td>Math. 242, Calculus I</td>
<td>5</td>
<td>Math. 243, Calculus II</td>
</tr>
<tr>
<td>Eng. 125, Introduction to Engineering Concepts</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>IE 213, Engineering Graphics II</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Phys. 311, Classical College Physics I</td>
<td>5</td>
<td></td>
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<tr>
<td>16</td>
<td>17</td>
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</tbody>
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<table>
<thead>
<tr>
<th>SOPHOMORE</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td>Hrs.</td>
<td>Course</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
<td>AE 327, Engineering Digital Computation</td>
</tr>
<tr>
<td>Math. 244, Calculus III</td>
<td>3</td>
<td>ME 398, Thermodynamics I</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences elective</td>
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<td>Humanities and fine arts or social and behavioral sciences elective</td>
</tr>
<tr>
<td>16</td>
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</table>

<table>
<thead>
<tr>
<th>JUNIOR</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course</td>
<td>Hrs.</td>
<td>Course</td>
</tr>
<tr>
<td>ME 361, Fluid and Heat Flow</td>
<td>4</td>
<td>AE 508, Systems Dynamics</td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
<td>AE 424, Aerodynamic Theory</td>
</tr>
<tr>
<td>Natural sciences elective</td>
<td>3</td>
<td>Math. 311, Introduction to Linear Algebra</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences elective</td>
<td>3</td>
<td>Technical elective</td>
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<tr>
<td>17</td>
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</tr>
</tbody>
</table>

College of Engineering/Aeronautical 177
### Upper Division Courses

#### 323. Engineering Mechanics: Statics. (3). Composition and resolution of vector quantities, conditions of equilibrium, friction and the statics of lumped and distributed systems, including internal force systems. Prerequisites: Math. 243 and Phys. 313, or equivalent, which may be taken concurrently. E 11 323 0 0921


#### 333. Mechanics of Deformable Solids I. (3). Theories of stress and strain; analysis of structural elements; and selected laboratory demonstrations. Prerequisites: AE 323, with C or better, and Math. 344, which may be taken concurrently. E 11 333 1 0921


#### 424. Aerodynamic Theory. (5). A study of dynamics of compressible and incompressible flow. This course deals with two- and three-dimensional airfoil theory, viscous flow and drag, and an introduction to performance. Prerequisites: Math. 550, ME 361 and AE 373. E 11 424 0 0902

### Courses for Graduate/Undergraduate Credit

#### 508. Systems Dynamics. (3). Mathematical modeling and analogies of electrical, mechanical, fluid and other lumped parameter systems, classical and transform methods of solution, and the theory and use of analog computers are studied. Prerequisites: AE 373, EE 382 and Math. 550, which may be taken concurrently. E 11 508 1 0901

#### 512. Experimental Methods in Aerodynamics. (2). A study of experimental methods and test planning, error analysis and propagation, model design, instrumentation, and flow visualization. Use is made of subsonic and supersonic wind tunnels. Prerequisite: AE 424. E 11 512 1 0902


#### 525. Flight Structures I. (3). Stress analysis of flight vehicle components. Prerequisites: Math. 550 (which may be taken concurrently) and AE 333. E 11 525 0 0902

#### 527. Numerical Methods in Engineering. (2). Error analysis. Polynomial approximations and power series, iterative solu-
tions of equations, matrices and systems of linear equations, numerical differentiation and integration, approximate solution of differential equations by divided differences are included. Prerequisites: AE 327 and Math. 550, which may be taken concurrently. E 11 527 1 0901

625. Flight Structures II. (3). 2R; 3L. Strength analysis and design of flight vehicle components. Special projects in structural analysis and design. Prerequisite: AE 525. E 11 625 0 0902

628. Airplane Design. (3). 1R; 4L. Preliminary design procedure and systems analysis. Prerequisite: AE 514. E 11 628 1 0902

632. Propulsion. (3). Theory and performance of propellers and reciprocating, turbojet, turboshaft, ramjet and rocket engines. Prerequisite: ME 361. E 11 632 0 0902

633. Mechanics of Deformable Solids II. (3). An exploration of limitations and usefulness of basic concepts of resistance of materials. Advanced concepts, including theories of failure and stresses and deformation in thin plates, cylinders, nonsymmetrical and curved flexural members, noncircular bars in torsion, etc., are studied in addition to stress concentrations and energy methods. Prerequisite: AE 333. E 11 633 0 0921

664. Field Analysis. (3). Potential theory: applications of the equations of Poisson and Helmholtz and of the diffusion and wave equations to various field and flow phenomena. Analysis of representative problems is also made. Prerequisites: ME 361 and EE 363. E 11 664 0 0921

675. Selected Topics in Aeronautical Engineering. (1-3). Prerequisite: departmental consent. E 11 675 0 0902

676. Selected Topics in Engineering Mechanics. (1-3). Prerequisite: departmental consent. E 11 676 0 0921

677. 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 for multidegree freedom systems. An introduction to continuous systems is made. Prerequisite: AE 508. E 11 677 0 0921

700. Structural Dynamics I. (3). Matrix methods for the analysis of the free and forced vibrations of multiple degree of freedom structures. Prerequisite: AE 677. E 11 700 0 0921

702. Jet Propulsion. (3). Analysis of jet propulsion devices; study of cycles; effect of operating variables; presentation of problems of installation, operation and instrumentation. Prerequisite: AE 632 or equivalent. E 11 702 0 0902

709. Flight Stability and Control. (3). Comprehensive analysis of flight dynamic stability and control and an introduction to the analysis of closed-loop flight systems. E 11 709 0 0902

711. Aerodynamics of Nonviscous Fluids. (3). A study of equations of motion, potential flow, conformal transformations, finite wing theory and nonsteady airfoil theory. E 11 711 0 0902

716. Aerodynamics of Compressible Fluids I. (3). Analysis of compressible fluid flow for one- and two-dimensional cases, moving shock waves, one-dimensional flow with friction and heat addition, linearized potential functions, method of characteristics, conical shocks and subsonic similarity laws. Prerequisite: AE 424 or equivalent. E 11 716 0 0902

731. Analysis of Elastic Solids I. (3). Development of equations of elasticity, with emphasis on stress and deformation analysis of two-dimensional problems. Additional topics taken from: elastic stability, bending of thin plates, torsional stresses, energy methods and thermal effects. Credit will not be granted for both AE 730 (no longer offered) and 731. E 11 731 0 0921

760. Selected Topics in Engineering Mechanics. (1-3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 11 760 0 0921

761. Selected Topics in Aerodynamics and Fluid Mechanics. (1-3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 11 761 0 0902

762. Selected Topics in Propulsion. (1-3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 11 762 0 0902

Courses for Graduate Students Only

801. Structural Dynamics II. (3). A study of vibration of strings and membranes; longitudinal, torsional and lateral vibration of bars; lateral vibration of plates and shells; classical, numerical and energy solutions; and an introduction to problems of aeroelasticity. Prerequisite: AE 677. E 11 801 0 0921

812. Aerodynamics of Viscous Fluids. (3). Viscous fluids flow theory and boundary layers. E 11 812 0 0902

822. Finite Element Analysis of Structures. (3). Analysis of structures by the direct stiffness method and comparison of methods and selected topics in finite element analysis. Prerequisite: AE 731. E 11 822 0 0902

831. Analysis of Elastic Solids II. (3). Continuation of AE 731. Topics taken from: elastic stability, bending of thin plates (isotropic, orthotropic and composite), torsional stress fields, energy methods, thermal effects, crack tip stress fields, etc. E 11 831 0 0921

838. Random Vibration. (3). Includes characterization, transmission and failure of mechanical systems subjected to random vibration. Analysis and measurement methods for random data are included. Prerequisite: instructor's consent. E 11 838 0 0921

876. MS Thesis. (1-4). E 11 876 4 0902

878. Directed Studies. (1-2). A course involving directed study under the supervision of a graduate faculty member. A written report is required. Repeatable toward the MS directed study option up to 2 hours. Prerequisite: graduate standing. E 11 878 4 0902

913. Aerodynamics of Aeroelasticity. (3). A study of thin airfoils and finite wings in steady flow and thin airfoils oscillating in incompressible flow. Extension to compressible and three-dimensional airfoils and modern methods for low aspect ratio lifting surfaces are included. Prerequisite: AE 711. E 11 913 0 0902

916. Aerodynamics of Compressible Fluids II. (3). An exploration of perfect gas flows past bodies of revolution. Also included are axisymmetric method of characteristics, hypersonic and transonic similarity, Newtonian theory, high temperature gases in equilibrium, and frozen flows and one- and two-dimensional moving shock waves. An introduction is made to separated flows and jet mixing. Prerequisite: AE 716. E 11 916 0 0902

926. Theory of Plasticity. (3). Includes criteria of yielding, including plastic stress-strain relationships, and stress and deformation in thick-walled shells, rotating discs and cylinders; bending and torsion of prismatic bars for ideally plastic and strain-hardening materials. Two-dimension and axially symmetric problems of finite deformation and variational and extremum principles are included. Prerequisite: AE 731. E 11 926 0 0921


Electrical Engineering

In the electrical engineering department emphasis is placed on the intensive study of physical laws appropriate to the study of modern electrical devices, including electrical machines. Courses stress the laws governing the individual behavior as well as behavior in the interconnection of devices. Analysis and synthesis of electrical networks, or systems, are of particular concern in specialized courses. The undergraduate program in electrical engineering is flexible enough to allow students to specialize in communication systems, modern control theory, computers, energy conversion, network and system theory, biomedical engineering and general electronics.
Electrical engineering students must have a strong interest in mathematics and physics. As a part of the curriculum, senior-level students are required to take a senior project of their own choosing under the supervision of a faculty member. The choice of subject material varies and represents a challenge in judgment and creativity in analysis or design. This program requires the completion of 132 semester hours for graduation, minus hours commensurate with advanced placement credit.

Specific requirements and a suggested semester breakdown for the electrical engineering program are given in the accompanying table.

### FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
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<tr>
<td>Math. 242, Calculus I</td>
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<tr>
<td>Chem. 111, General Chemistry</td>
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<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
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### Second Semester

<table>
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<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Engr. 125, Introduction to Engineering Concepts</td>
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</tr>
<tr>
<td>Eng. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Math. 243, Calculus II</td>
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<tr>
<td>Phys. 313, Classical College Physics</td>
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<tr>
<td>Humanities and fine arts elective</td>
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Total: 16

### SOPHOMORE

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>AE 323, Engineering Mechanics: Statics</td>
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</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Phys. 314, Classical College Physics Lectures II</td>
<td>4 or 5</td>
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### First Semester

<table>
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<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>ME 398, Thermodynamics I</td>
<td>3</td>
</tr>
<tr>
<td>AE 373, Engineering Mechanics: Dynamics</td>
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</tr>
<tr>
<td>Math. 311, introduction to Linear Algebra</td>
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</tr>
<tr>
<td>Math. 550, Ordinary Differential Equations</td>
<td>3</td>
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Total: 17 or 18

### JUNIOR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>EE 363, Electromagnetic Fields</td>
<td>3</td>
</tr>
<tr>
<td>EE 488, Electromechanical Energy Convertors</td>
<td>4</td>
</tr>
<tr>
<td>EE 492, Electronic Circuits</td>
<td>4</td>
</tr>
<tr>
<td>Natural sciences elective</td>
<td>3</td>
</tr>
<tr>
<td>Technical or transfer elective</td>
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### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 580, Transient and Frequency Analysis</td>
<td>4</td>
</tr>
<tr>
<td>ME 361, Fluid and Heat Flow</td>
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<tr>
<td>Technical elective</td>
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<tr>
<td>Social and behavioral sciences elective</td>
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Total: 18 or 19

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College of Engineering/Electrical 181
### Senior

#### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 686, Information Processing</td>
<td>4</td>
</tr>
<tr>
<td>EE 585, Electrical Design Project I</td>
<td>1</td>
</tr>
<tr>
<td>Technical electives</td>
<td>7</td>
</tr>
<tr>
<td>Social and behavioral sciences elective †</td>
<td>3</td>
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<td></td>
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#### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 682, Energy and Information Transmission</td>
<td>4</td>
</tr>
<tr>
<td>EE 595, Electrical Design Project II</td>
<td>1</td>
</tr>
<tr>
<td>Technical electives</td>
<td>9</td>
</tr>
<tr>
<td>Social and behavioral sciences †</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

* Out of department engineering courses.
† Eight hours of General Studies courses must be included.

1. The following requirements concern technical electives:
   1. In every case the program of engineering courses selected must include 33 hours of engineering science: 17 hours of design, synthesis and systems; and 15 hours outside of the electrical engineering department. The student is responsible for seeing that these requirements are met.
   2. Either EE 199 or AE 327 must be taken.
   3. A minimum of 10 credit hours must be within the electrical engineering department. These courses must be selected with the approval of an electrical engineering adviser.

§ One of the following must be taken: Phys. 311 instead of Phys. 313; Phys. 312 instead of Phys. 314; Phys. 316 or a 4-hour course from the basic science elective list.

// Or any calculus-based mathematics course approved by the electrical engineering department.

### Lower Division Courses

**199. Engineering Computing Fundamentals.** (3). Automatic data processing, digital computers, flow charting, computer language, FORTRAN IV, sorting techniques and the solution of elementary problems. Prerequisite: Math. 111 or 112. E 12 199 1 0909

**228. Assembly Language Programming for Engineers.** (3). An introduction to basic concepts of computer organization and operation. A study is made of machine and assembly language programming concepts that illustrate basic principles and techniques. Prerequisite: EE 199 or equivalent. E 12 228 1 0909

### Upper Division Courses

**363. Electromagnetic Fields.** (3). A vector development of electric and magnetic fields, including experimental laws, polarization phenomena and Maxwell’s equations. Prerequisites: Phys. 314 and Math. 550. E 12 363 0 0909

**382. Electrical Dynamics.** (4). 3R; 3L. Electric circuit analysis with emphasis on the time varying case; sinusoidal excitation, frequency response, network theorems, coupled circuits and polyphase circuits. Prerequisites: Math. 344 and Phys. 314. E 12 382 1 0909

**488. Electromechanical Energy Converters.** (4). 3R; 3L. Theory and analysis of electromechanical energy conversion devices. Prerequisite: EE 382 or departmental consent. E 12 448 1 0909

**492. Electronic Circuits.** (4). 3R; 3L. Includes physical electronics, electron beams; semiconductor, vacuum and gaseous devices and their equivalent circuits; and application to the field of information processing, power modulation and simulation. Prerequisites: EE 382 and Math. 550. E 12 492 1 0909

### Courses for Graduate/Undergraduate Credit

**580. Transient and Frequency Analysis.** (4). 3R; 3L. Review of classical transient analysis and Fourier series. An introduction is made to Laplace and Fourier transforms, with emphasis on network response, complex frequency concepts and signal spectra. Prerequisites: EE 382 and Math. 550. May not be counted for credit toward a graduate electrical major. E 12 580 1 0909

**585. Electrical Design Project I.** (1). 3L. A design project under faculty supervision chosen according to the student’s interest.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 3L means 3 hours of lecture and 3 hours of lab.

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Prerequisite: departmental consent. May not be counted toward a graduate electrical major. E 12 585 3 0909

588. Advanced Electromechanical Energy Converters. (4). 3R; 3L. A continuation of EE 488, including solid-state control. Computer applications are stressed. Prerequisites: EE 492 and 488. E 12 588 1 0909

594. Logic Design and Switching Theory. (3). 2R; 3L. An introduction to the theory and application of switching devices, with particular emphasis on computer applications. Combinatorial, sequential and threshold logic concepts and realizations; network minimization methods; hazards; codes; and computerized logic design are included. Prerequisite: junior standing or departmental consent. E 12 594 1 0909

595. Electrical Design Project II. (1). 3L. Prerequisite: EE 585 or departmental consent. May not be counted toward a graduate electrical major. E 12 595 3 0909

597. Theory of Semiconductor Devices. (3). Included are principles of operation of semiconductor devices, with emphasis on underlying physical phenomena. Some treatment is given to integrated circuit geometrics and associated problems. Prerequisites: EE 363 and 492. E 12 597 0 0909

598. Electric Energy Systems. (4). 3R; 3L. Concepts of electric energy systems, system model representation, high-energy transmission lines and load-flow analysis, with computer applications stressed. Prerequisite: EE 488. E 12 598 1 0909

638. Engineering Applications of Minicomputers. (3). A course designed to provide an understanding and appreciation of minicomputer capability and the application of minicomputers to engineering problems. The course covers the organization, operation and programming of minicomputers, peripheral equipment, interfacing with special equipment, and typical minicomputer applications. Prerequisite: EE 228 or equivalent. E 12 638 0 0909

677. Selected Topics in Electrical Engineering. [1-4]. New or special courses are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent. E 12 677 0 0909

681. Pulse Electronics. (4). 3R; 3L. An investigation of active and passive circuits, including integrated circuits, for the generating and processing of pulse waveforms. Topics covering other nonlinear electronic circuits are included (e.g., class C amplifiers, nonlinear feedback and adaptive selection of linear circuits). Prerequisite: EE 580 and 492 or departmental consent. E 12 681 1 0909

682. Energy and Information Transmission. (4). 3R; 3L. A study of transmission line parameters; power, signal and high frequency transmission lines; wave propagation in free space and bounded media; and wave guides and antennas. Prerequisites: EE 363 and 686 or concurrent enrollment. E 12 682 1 0909

683. Network Theory. (3). Matrix algebra, generalized theory and analysis of lumped parameter networks. Also included is an introduction to network synthesis and symmetrical components. Prerequisite: EE 580. E 12 683 0 0909


686. Information Processing. (4). 3R; 3L. Properties of signals and noise; introduction to information theory; and AM, FM and pulse modulation and detection. Principles of sampling, coding and multiplexing and the organization of analog and digital systems for information processing are included. May not be counted toward a graduate electrical major. Prerequisite: EE 580. E 12 686 1 0909

694. Digital Computer Design Fundamentals. (3). An introductory but reasonably detailed study of stored program digital computers from an integrated hardware-software approach. Consideration is given to computer logical design, arithmetic units and operation, large capacity storage systems, input-output units and systems integration. Prerequisite: EE 594 or departmental consent. E 12 694 0 0909

782. Methods of Systems Analysis. (3). A study of methods of analysis of both linear and nonlinear systems. Time-domain techniques; singularity functions; resolution of signals from elementary functions; and solution of differential and difference equations are included. Also covered are transform techniques: Laplace, Fourier and Z transforms; frequency spectra; complex frequency; complex integration; significance of singularities; and matrices and vector spaces as used in systems work. Prerequisite: EE 580 or departmental consent. E 12 782 0 0909
783. Electromagnetic Field Theory I (3). Introduction to advanced mathematical treatment of electric and magnetic fields, boundary value problems, Maxwell’s equations and applications to wave guide and cavity resonators. Prerequisite: EE 363 or departmental consent. E 12 783 0 0909

786. Digital Communication Systems (3). A course designed to cover theoretical and practical aspects of digital information transmission. Topics to be covered include modeling and analysis of discrete information sources; source coding; baseband PAM data transmission; digital modulation schemes such as ASK, PSK, FSK, DPSK; error control through coding techniques for digital transmission of analog data. Prerequisite: EE 686 or equivalent. E 12 786 0 0909

794. Advanced Digital Systems (3). A course covering primarily two topics: (1) microprocessors and (2) microprogramming. The operation and application of microprocessors are presented, and a survey of available devices is reviewed. The characteristics of microprogrammable architecture are covered, and the techniques of microprogramming are presented. The techniques are applied on the department’s microprogrammable minicomputer. Prerequisite: EE 694 and 228 or equivalent. E 12 794 0 0909

Courses for Graduate Students Only

876. Thesis. (1-3). Repeatable for credit toward a thesis option up to 6 hours. Prerequisite: prior consent of thesis advisor. E 12 876 4 0909

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. E 12 877 0 0909

878. Directed Studies in Electrical Engineering. (2-4). Repeatable toward the directed studies option for up to 4 hours. The student must write a paper and give an oral presentation on the study made. Prerequisite: departmental consent. E 12 878 4 0909

887. Communication Theory. (3). Theory of information and noise; communication of information in presence of noise; channel capacity; modulation and multiplexing, sampling and coding; detection theory, including effects of noise and nonlinear circuits; and correlation methods. Prerequisite. departmental consent. E 12 887 0 0909

888. Selected Topics in Antennas and Propagation. (3). Determination of characteristics of practical antenna systems; radiation patterns and antenna impedances; diffraction, horns, slots, etc.; and wave propagation in the earth’s environment, including tropospheric and ionospheric phenomena. Prerequisite: EE 783. E 12 888 0 0909

889. Advanced Electrical Laboratory. (2). 6L. Training in fundamental experimental technology in some field of electrical specialization. This course consists of selected experiments in various areas of electrical engineering. The general subject area is announced each semester the course is offered. Repeatable for credit. Prerequisite: departmental consent. E 12 889 1 0909

890. Topics in Control Systems. (3). A study of various concepts such as multiloop systems, multivariable systems and decoupling; nonlinear systems; and sampled-data systems. Repeatable for credit. Prerequisite: EE 684 or departmental consent. E 12 890 0 0909

892. State-Variable Techniques in Systems I. (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. Adjoint systems are studied in addition to Liapunov and Lagrange stability and computational approximation techniques. Prerequisite: EE 782 or departmental consent. E 12 892 0 0909

893. State-Variable Techniques in Systems II. (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: EE 892 or departmental consent. E 12 893 0 0909

896. Network Synthesis. (3). A detailed study of the direct approach to network synthesis from the functional description. Topics include realizability conditions for networks, synthesis of LC, RL, RC and RLC driving point impedances and synthesis of LC transfer impedances. Butterworth and Chebyshev filters and time domain synthesis are covered. Prerequisite: EE 782 or instructor’s consent. E 12 896 0 0909
Industrial Engineering

The industrial engineering department is concerned with instruction and research in design, analysis and operation of integrated systems of men, material, equipment and money. In addition to a strong interest in the solution of current, real problems found in industry, the department’s curriculum is devoted to the preparation of students who can examine and analyze problem areas that are amenable to a system’s engineering approach. Additionally, the department is the home of the Rehabilitation Engineering Center, which is devoted to providing vocational opportunities for the physically disabled.

Students are allowed to take 21 hours of industrial engineering electives in order to tailor their programs to one of the following options: (1) operations research or (2) manufacturing systems. This scheme is completely flexible to allow students to specialize in a specific aspect of industrial engineering. Students’ programs are determined by their own special interests in consultation with their major adviser.

A modern, well-equipped laboratory is available to supplement classroom theory in human factors engineering, manufacturing processes, work measurement and factory planning. In addition, the industrial engineering department has the responsibility for teaching all engineering graphics courses. To fulfill this responsibility the department maintains modern drafting rooms and drafting facilities and is currently developing a modern sequence of engineering graphics courses oriented toward digital computer applications.

The industrial engineering program requires the completion of 133 semester hours for graduation, minus hours commensurate with advanced placement credit. Specific requirements and a suggested semester breakdown for the industrial engineering program are given in the accompanying table.
### FRESHMAN

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 111, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 242, Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>IE 110, Engineering Graphics I</td>
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</tr>
<tr>
<td>Math. 244, Calculus II</td>
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<td>Humanities and fine arts elective</td>
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<td>Math. 311, Introduction to Linear Algebra §</td>
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<td><strong>Total</strong></td>
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### SOPHOMORE

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<th>Second Semester</th>
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<tr>
<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
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<tr>
<td>Math. 344, Calculus III</td>
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<tr>
<td>AE 323, Engineering Mechanics: Statics *</td>
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<tr>
<td>Humanities and fine arts elective †</td>
<td>3</td>
</tr>
<tr>
<td>IE 213, Engineering Graphics II</td>
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<tr>
<td>Math. 311, Introduction to Linear Algebra §</td>
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### JUNIOR

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<th>First Semester</th>
<th>Second Semester</th>
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<tr>
<td><strong>Course</strong></td>
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<tr>
<td>IE 354, Engineering Probability and Statistics</td>
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<td>IE 352, Work Measurement</td>
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</tr>
<tr>
<td>IE 355, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>AE 333, Mechanics of Deformable Solids I °</td>
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### SENIOR

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<tr>
<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
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<tr>
<td>IE 556, Introduction to Information Systems</td>
<td>3</td>
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<tr>
<td>Social and behavioral sciences elective †</td>
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<tr>
<td>Technical electives †</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</tr>
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</table>
The following requirements concern technical electives:

1. Free electives may be used as technical electives at the discretion of the department with decisions based upon the merits of individual cases.
2. A minimum of 12 credit hours of technical electives must be taken within the department.
3. A minimum of 6 credit hours of technical electives must be taken outside of the College of Engineering.
4. Technical electives must contain a minimum of 1 credit hour of engineering design.
5. Technical electives must contain a minimum of 1 credit hour of engineering science.

Or any calculus-based mathematics course approved by the industrial engineering department.

Lower Division Courses

110. Engineering Graphics I. (2). 4L. Basic spatial relationships involving lines and planes, auxiliary views of solids and problems in intersections. Prerequisite: departmental consent. E 13 110 1 0901

213. Engineering Graphics II. (2). 4L. The application of descriptive geometry, standards in graphical communications and conventions to engineering design and analysis. Prerequisite: IE 110. E 13 213 1 0901

250. Topics in Engineering Graphics. (2). 4L. The application of engineering graphics to the study of special problems and to methods of conveying information. Prerequisite: Speech 244 or departmental consent. E 13 250 1 0901

Upper Division Courses

352. Work Measurement. (3). 2R; 3L. Work measurement, motion and time study, methods simplification, work sampling, predetermined time standards and time formula derivation. Prerequisite: departmental consent. E 13 352 1 0913

354. Engineering Probability and Statistics. (3). Basic theory of probability and statistics, with emphasis on applications to engineering. Prerequisite or concurrent enrollment in: Math. 344. E 13 354 1 0901

355. Engineering Economy. (3). Economic comparisons of engineering alternatives. Limiting factors of economic return are considered. Prerequisite: departmental consent. E 13 355 0 0913

356. Introduction to Numerical Control. (2). An introduction to the concepts and techniques of the operation of machine tools from numerical data, including open and closed loop systems, point-to-point and a discussion of continuous path processing and the various means of data representation. Prerequisite: departmental consent. E 13 356 1 0913

357. Safety Engineering. (3). Design for safety. Environmental aspects of accident prevention, industrial compensation and safety legislation are included, along with fundamental concepts of occupational health and hygiene. Prerequisite: departmental consent. E 13 357 0 0913

460. Engineering Management. (3). Introduction to the management of short-lived organizations for students with a technical background. Emphasis is placed upon the application of individual leadership and managerial skill as they pertain to research and development, and engineering projects. Prerequisite: Admin. 360 or departmental consent. E 13 460 0 0913

480. Selected Topics in Industrial Engineering. (1-4). New or special course material is presented under this listing based upon sufficient student demand. Repeatable for credit. Prerequisite: departmental consent. E 13 480 0 0913

Courses for Graduate/Undergraduate Credit

549. The Human Factor in Engineering Design. (3). The synthesis of human physiological, psychological, sociological and legal limitations and influence on design of consumer, public and experimental products. Prerequisite: departmental consent. E 13 549 0 0913

550. Applied Operations Research I. (3). An introduction to selected techniques of operations research. Included topics are linear programming, transportation and network models, and game theory. The simplex method, dual problem and sensitivity analysis are analyzed. Not automatically applicable toward an advanced degree in engineering. Course must be approved by the student's adviser and the chairperson of the department. Prerequisite: Math. 344 or departmental consent. E 13 550 1 0913

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R, 3L means 3 hours of lecture and 3 hours of lab.

College of Engineering/Industrial 187
553. Production Control. (3). Techniques of production planning, scheduling and dispatching, and applications to automation and computer control. Prerequisite: IE 355. E 13 553 1 0913

554. Statistical Quality Control. (3). A continuation of IE 354 with special emphasis on quality and process control. Prerequisite: IE 354. E 13 554 1 0913

556. Introduction to Information Systems. (3). An introduction to the analysis of general information systems. The design, implementation and economic analysis of computer-based information systems are emphasized. Knowledge of programming is useful but not essential. E 13 556 0 0913

558. Manufacturing Methods and Materials. (3). A general survey of the manufacturing and fabricating methods employed in industry. Special emphasis is placed on the latest manufacturing techniques. Not automatically applicable toward an advanced degree in engineering. Course must be approved by the student’s adviser and the chairperson of the department. E 13 558 0 0913

580. Modern Techniques in Safety Engineering. (3). A study of fundamental principles of industrial safety and Occupational Safety and Health Act. Indexes of safety performance, mathematical formulas for evaluation and control of hazards, accident experience learning curve, safety sampling, Safe-T-Score, accident control charts, job safety analysis, cost-benefit analysis, accident cost analysis, system safety analysis, failure rate and computerized analysis of accident data are included. Prerequisite: IE 357 or departmental consent. E 13 580 0 0913

590. Senior Projects in Industrial Engineering. (1-3). Selection and research of a specific industrial engineering topic. E 13 590 3 0913

650. Applied Operations Research II. (3). An introduction to additional techniques of operations research not included in IE 550. A study of dynamic programming, inventory models, queuing theory, simulation and the use of random numbers. Not automatically applicable toward an advanced degree in engineering. Course must be approved by the student’s adviser and the chairperson of the department. Prerequisite: IE 354. E 13 650 1 0913

665. Management Systems Simulation. (3). The design of simulation methods and techniques for use in managerial decision models, engineering evaluations and other systems too complex to be solved analytically. Emphasis is on general purpose computer simulation languages. Prerequisites: AE 327 and IE 354. E 13 665 1 0913


720. Urban Systems. (3). Cross-listed as UA 720. This course develops the principles of systems analysis and the tools by which these principles can be applied. Example applications are taken from urban problems. Emphasis is on the formulation of realistic models and solutions. Computer techniques are developed in class as necessary. Prerequisite: instructor’s consent. E 13 720 0 0913

722. Simulation of Social and Administrative Systems. (3). Designed primarily for nonquantitatively trained persons working in the social and administrative areas who desire a working knowledge of simulation. No programming experience is necessary. Case studies are used extensively, and facility in one simulation language is developed. Not for graduate credit for engineering majors. Prerequisite: departmental consent. E 13 722 0 0913

730. Advanced Linear Programming. (3). A continuation of IE 550. Included topics are the mathematical development of the simplex method, revised simplex, decomposition, bounded variables, parametric programming and integer programming. Prerequisite: IE 550. E 13 730 0 0913

732. Queueing and Inventory Systems. (3). An analysis of the behavior of queueing and inventory systems and their interrelationships. Poisson, non-Poisson and imbedded Markov chain queueing models are discussed. Includes the development of single and multiple item constrained inventory models and periodic and continuous review policies. Prerequisite: IE 550. E 13 732 0 0913

735. Forecasting and Scheduling. (3). Analysis of prediction techniques in forecasting and scheduling by time series and probability models, smoothing techniques and error analysis. Prerequisite: IE 354. E 13 735 0 0913

745. Production Engineering. (2). The organization, design and control of production and associated staff functions. The formulation of manufacturing policies and
case studies in production design are included. E 13 745 0 0913

750. Industrial Engineering Workshops. (1-4). Various topics in industrial engineering. Prerequisite: departmental consent. E 13 750 2 0913

Courses for Graduate Students Only

831. Classical Optimization Techniques. (3). An extensive treatment of those optimization techniques that do not require the use of linear programming. A development of variational methods, direct search and numerically based techniques is given. Prerequisite: IE 550. E 13 831 0 0913

840. Analysis of Decision Processes. (3). A study of time value of money, economics of equipment selection and replacement, engineering estimates, evaluation of proposals, computer analysis and the solution of economic problems by the analysis of certainty, risk and uncertainty. Prerequisite: IE 355. E 13 840 0 0913

842. System Simulation with Digital Computers. (3). Advanced development of the techniques and methods for simulating complex systems. Emphasis is on the design of simulation experiments and on the statistical analysis of results. Prerequisite: IE 665. E 13 842 1 0913

843. Operations Research. (3). A study of the theory and application of nonlinear model-building techniques for the problems found in industry. Included topics are the Jacobian method; Lagrange multipliers; and separable, convex, quadratic, geometric and stochastic programming. Prerequisites: IE 550 and IE 650. E 13 843 1 0913


876. Thesis. (1-3). Prerequisite: consent of thesis adviser. E 13 876 4 0913

879. Seminar in Management Science. (3). Application of management science methods and models to real problems. A special project, including original case research, supervised internships or field research is assigned. Prerequisite: consent of graduate adviser. E 13 879 9 0913

Mechanical Engineering

The curriculum in mechanical engineering is an integrated program of study based upon three central parts. The first part provides students with a basic series of courses in physics, mathematics and appropriate humanities. The second part consists of a core of engineering science subjects embracing the concepts and techniques judged fundamental for the modern mechanical engineer. The third part of the program permits students to choose, according to their needs and desires, a program of specialized mechanical engineering department electives. Study in all three of these areas is distributed throughout the entire college curriculum in order to provide a fully integrated program. The undergraduate program in mechanical engineering is sufficiently flex-
ible to allow students to choose a program that is appropriate to the fields of design, heat transfer, systems, thermodynamics, instrumentation and experimentation and fluid mechanics.

The objective of the mechanical engineering program is to provide a modern engineering education and a strong stimulus for continued learning that will enable students to take an active and meaningful part in the technical and social community of today and tomorrow. The program includes the technical and conceptual fundamentals necessary to permit students to contribute to the technical or scientific community and to continue their education at the graduate level. At the same time, the program is broad enough to help students find an appreciation and concern for the social problems that they will encounter in their professional and personal life.

The technical portion of the program provides students with a background for careers in design, research, development, production and technical management in a wide variety of industries and fields. The course of study equips students for the development of systems and processes involving mechanical, thermal and electrical energy, including the generation, conversion, metering, control and utilization of these energy sources.

Through the mechanical engineering program students are prepared to accept challenges from almost the entire range of industry, including electrical and heat energy generation, transportation by all modes, consumer products, manufacturing, environmental control, and health engineering equipment. In fact, many employers seek mechanical engineers because of their versatility.

The faculty and laboratory facilities of the department provide elements for a well-balanced, coherent program. Students in their senior year select electives that will help them to emphasize their study of design, fluid flow, heat transfer, instrumentation, or systems and controls. Students are urged to work out a suitable program of study in consultation with the faculty.

The program requires the completion of 132 semester hours for graduation, minus hours commensurate with advanced placement credit. Specific requirements and a suggested semester breakdown for the mechanical engineering program are given in the table.

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<tr>
<th>Course</th>
<th>Hrs.</th>
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<th>Hrs.</th>
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<tbody>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
<td>Eng. 102, College English II</td>
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<tr>
<td>Math. 242, Calculus I</td>
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<td>Math. 243, Calculus II</td>
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<tr>
<td>Chem. 111, General Chemistry</td>
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<td>Engr. 125, Introduction to</td>
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<td>Engineering Concepts</td>
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<td>Phys. 313, Classical College</td>
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<td>Physics Lectures I</td>
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16 or 17
### SOPHOMORE

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<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
<td>AE 327, Engineering Digital Computations</td>
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<tr>
<td>Phys. 314, Classical College Physics Lectures II</td>
<td>4 or 5</td>
<td>AE 373, Engineering Mechanics: Dynamics I</td>
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</tr>
<tr>
<td>Math 344, Calculus III</td>
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<td>ME 398, Thermodynamics I</td>
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16 or 17

### JUNIOR

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<th>Course</th>
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<td>ME 361, Fluid and Heat Flow</td>
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<td>ME 350, Materials Engineering</td>
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<tr>
<td>AE 333, Mechanics of Deformable Solids I</td>
<td>3</td>
<td>ME 401, Mechanical Engineering Laboratory</td>
<td>2</td>
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<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
<td>ME 469, Energy Conversion</td>
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<tr>
<td>ME 301, Mechanical Engineering Measurements</td>
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### SENIOR

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<th>Course</th>
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<td>ME 439, Mechanical Engineering Design I</td>
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<td>ME 541, Mechanical Engineering Design II</td>
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<tr>
<td>ME 502, Thermodynamics II</td>
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<td>ME 648, Mechanical Engineering Projects</td>
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<td>ME 548, Mechanical Engineering Projects</td>
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<td>Science elective</td>
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* The following requirements concern technical electives (24 hours required):
1. A minimum of 8 hours must be selected from the following courses: Engr. 100; AE 508, 633, 677, 773; EE 492; IE 110, 213, 354, 355, 588.
2. A minimum of 15 hours of mechanical engineering electives must be selected from the following courses: ME 399, 450, 504, 621, 622, 656, 659, 705, 749, 751, 755, 758, 767.
3. Mechanical engineering electives must include a minimum of 2 hours of engineering science.
4. Electives must include one of the following courses: ME 656, 659; AE 508, 677, 773.
5. Eight hours of General Studies must be included.
6. One of the following must be taken: Phys. 311 instead of Phys. 313; Phys. 312 instead of Phys. 314; Phys. 316 or a 4- or 5-hour course from the basic science elective list.
7. Or any calculus-based mathematics course approved by the mechanical engineering department.
Lower Division Course

131. Basic Heating, Ventilating and Air-conditioning. (2). The design of heating, ventilating and air-conditioning systems, including load calculations, system components, design of air-distribution systems, system controls and refrigeration. This course is intended for engineers and technologists interested in this field and is not allowed for major credit. Prerequisite: departmental consent. Offered for credit/no credit only. E 14 131 0 0910

Upper Division Courses


350. Materials Engineering. (4). 3R; 3L. Study of important structural materials used in engineering, including metals, polymers and composites, primarily from a phenomenological viewpoint. Prerequisite: AE 333. E 14 350 1 0910

361. Fluid and Heat Flow. (4). 3R; 3L. A study of pressure and velocity fields; kinematics of perfect and real fluids; similarity; temperature fields and heat transfer, conduction, convection and radiation, as well as an introduction to gas dynamics. Prerequisites: Phys. 314 and ME 398. E 14 361 1 0910

398. Thermodynamics I. (3). A study of the first and second laws. Thermodynamic analysis is explored as it is applied to thermal, mechanical and fluid systems. Prerequisites: Math. 243 and Phys. 313. E 14 398 0 0910

399. Introduction to Design. (2). 4L. Application of the principles of engineering design to projects involving engineering systems. Prerequisite: AE 323, or concurrent enrollment. E 14 399 1 0910

401. Mechanical Engineering Laboratory. (2). 6L. Selected experiments designed to illustrate the methodology of experimentation as applied to mechanical and thermal systems. Experiments include the measurement of performance of typical systems and evaluation of physical properties and parameters of systems. Prerequisites: ME 301 and 361. E 14 401 1 0910

439. Mechanical Engineering Design I. (3). Application of statics, strength of materials and other engineering sciences to the design of machine elements and mechanical systems. Prerequisites: AE 333, 373 and Math. 550. E 14 439 0 0910

450. Topics in Mechanical Engineering. (1-3). An investigation of selected phases of mechanical engineering. Prerequisite: departmental consent. E 14 450 0 0910

469. Energy Conversion. (3). Energy conversion principles and their implementation in engineering devices. Consideration is given to all main areas of converting energy from one form to another. Prerequisites: ME 398 and EE 382. E 14 469 0 0910

Courses for Graduate/Undergraduate Credit

The courses numbered 502 through 767 are not automatically applicable toward an advanced degree in engineering. They must be approved by the student's adviser, the graduate coordinator and the chairperson of the department.

502. Thermodynamics II. (3). Continuation of ME 398, with emphasis on availability, irreversibility, Maxwell's equations and thermodynamic property relations. Prerequisites: ME 398, 361 and 469, which may be taken concurrently. E 14 502 0 0910

504. Instrumentation. (3). 2R; 3L. A more complete treatment of the measurement problem with careful examination of modern instrumentation systems, including dynamic behavior and nonlinearities. Criteria for design, synthesis and selection of instrumentation systems are included. Prerequisite: ME 301. E 14 504 1 0910

541. Mechanical Engineering Design II. (4). 3R; 3L. Design of mechanical elements, with practical applications in mechanical engineering. Prerequisite: ME 439. E 14 541 1 0910

548. Mechanical Engineering Projects. (1). A design, analysis or research project under faculty supervision. Problems are selected according to student interest.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 3L means 3 hours of lecture and 3 hours of lab.
Prerequisites: ME 301 and senior standing. E 14 548 3 0910

621. Intermediate Fluid Mechanics. (3). Steady and transient flow of ideal and real fluids. Included are a study of non-Newtonian fluids and an introduction to boundary layer theory. Prerequisites: ME 361 and Math. 550. E 14 621 0 0910

622. Intermediate Heat Transfer. (3). A rigorous treatment of heat transfer, including transient and multidimensional conduction, free and forced convection, radiation and combined heat transfer. Various analogies, numerical methods, and approximate solutions are considered. Prerequisites: ME 361 and Math. 550. E 14 622 0 0910

648. Mechanical Engineering Projects. (1). A design, analysis, or research project under faculty supervision. Problems are selected according to student interest. Prerequisite: ME 548. E 14 648 3 0910

656. Analysis in Engineering. (3). Analytical techniques applied to engineering problems. Prerequisite: Math. 550. E 14 656 0 0910

659. Mechanical Control I. (3). Theory and analysis of the dynamic behavior of mechanical, thermal, fluid and electromagnetic control systems as based on the laws of physics and linear mathematics. Prerequisites: AE 373 and Math. 550 or departmental consent. E 14 659 0 0910

705. Design of Engineering Experiments. (3). Study of theoretical, analytical and statistical aspects of basic engineering experiments. Theories of test planning, data checking, analysis and synthesis, and evaluation are considered. Prerequisite: departmental consent. E 14 705 1 0910

749. Kinematics and Dynamics of Machines. (3). Analysis and synthesis of mechanisms; force analysis of machines. Prerequisite: ME 439. E 14 749 0 0910

751. Special Topics in Mechanical Engineering. (1-3). New or special courses are presented under this listing. This course may be repeated for credit when subject material warrants. Prerequisite: departmental consent. E 14 751 0 0910

755. Intermediate Thermodynamics. (3). Laws of thermodynamics, introduction to statistical concepts of thermodynamics, thermodynamic properties, chemical thermodynamics, Maxwell's relations. Prerequisite: ME 502 or departmental consent. E 14 755 0 0910

758. Computational Heat Transfer and Fluid Dynamics. (3). Numerical solutions of steady and transient heat conduction, convection, potential flow and viscous flow problems. Prerequisites: ME 621 and 622. E 14 758 0 0910

767. Theory of Rational Design. (3). Design decision techniques, including frequency, axiomatic and Bayesian formulation, statistical inference techniques, Jaynes' maximum entropy principle and error analysis. Prerequisite: departmental consent. E 14 767 0 0910

Courses for Graduate Students Only

801. Boundary Layer Theory. (3). Development of the Navier-Stokes equation, laminar boundary layers, transition to turbulence, turbulent boundary layers and an introduction to homogeneous turbulence. Prerequisite: Math. 651 or departmental consent. E 14 801 0 0910

845. Fracture. (3). Ductile and brittle fracture: phenomena and mechanisms, linear elastic fracture mechanics, transition temperature approaches, tests for fracture resistance and design methods. Prerequisite: departmental consent. E 14 845 0 0910

846. Fatigue and Wear. (3). Fatigue of metals and nonmetals: phenomena, fatigue testing procedures and design methods. Survey of wear problems in engineering. Prerequisite: departmental consent. E 14 846 0 0910

851. Heat Transfer-Conduction. (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. 651, or departmental consent. E 14 851 0 0910

852. Heat Transfer-Convection. (3). Free and forced convection in laminar and turbulent flow. Analysis and synthesis of heat transfer equipment are included. Prerequisite: ME 622 or departmental consent. E 14 852 0 0910

853. Heat Transfer-Radiation. (2). Analysis and synthesis of radiant heat transmission systems and components; analogous and approximate method of solutions. Prerequisite: ME 622 or departmental consent. E 14 853 0 0910

calculation of thermodynamics properties, elementary kinetic theory, introduction to irreversible thermodynamics. Prerequisite: ME 502 or departmental consent. E 14 856 0 0910

860. Electromechanical Control Systems. (3). Description, analysis and design of electromechanical control systems, with an emphasis on actual devices. Prerequisite: ME 659 or departmental consent. E 14 860 0 0910

861. Similarity in Engineering. (2). Critical analysis of models and analogies as aids to engineering design. Prerequisite: departmental consent. E 14 861 0 0910

868. Rational Design Methods. (3). The principles of creativity, decision theory, modeling, optimization and reliability as applied to problems of engineering design. Prerequisite: departmental consent. E 14 868 0 0910

870. Special Topics in Mechanical Engineering. (3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 870 0 0910

876. Thesis. (1-4). E 14 876 4 0910

878. Directed Studies. (1-4). Repeatable as approved in the graduate school plan of study. The student must write a paper and take an oral examination on the study made. Prerequisite: departmental consent. E 14 878 4 0910

Engineering Technology Program

The program has four options: fire science technology, electrical engineering technology, mechanical engineering technology and manufacturing engineering technology. The general academic structure of the program is as follows:
Engineering technology programs are designed to prepare individuals to work at jobs that require technical competence, knowledge and skills that are greater than those required of the craftsman or skilled-tradesman but less theoretical and academic than those of the engineer. The requirements are closer to those of the engineer, since engineering technology involves the application of scientific and engineering principles in support of engineering activities.

The technology program at Wichita State is a four-year Bachelor of Engineering Technology (BET) program. There are options in electrical, manufacturing and mechanical engineering technology and in fire science technology. The BET program requires a common technology core with courses in mechanics, thermal, electrical, and drafting and design. Additional common course requirements are found in chemistry, physics and mathematics (algebra, trigonometry and calculus).

The differences between the engineering and the engineering technology programs center primarily around the mathematics content of the programs. Mathematics for the BET program begins with technical algebra and trigonometry, whereas mathematics for the engineering program begins with calculus. This significant difference is reflected throughout the required basic science, technical science and technical specialty courses in the engineering technology program. Selected topics emphasizing applications in analytic geometry and calculus round out the minimum mathematics requirements. Other subjects in mathematics, statistics or computers are added to strengthen the foundation for subsequent technical subjects, with the specific course selection determined by the technology specialty field selected.

The design courses of the engineering technology program are concerned with the application of established design concepts developed by engineering, with prime emphasis on standard design procedures and practices.

The engineering technology options also include a number of technical electives. These elective courses can be any courses that support a student’s career interests. Included in this category are not only additional mathematics, basic science, technical science and supportive courses from other technology disciplines, but also labor relations, cost accounting, contracts and specifications, etc. This option gives engineering technology students the opportunities to tailor their education to meet their own desires and objectives. The options are structured primarily for students who enter the program with no prior
college-level study. The options, however, also allow individuals who have earned an associate degree from another institution to receive a BET degree with less than four years of additional study. The amount of credit allowed toward the BET degree for courses taken at other institutions depends upon the academic emphasis and the level of technical difficulty of the students' previous programs.

Credit earned in an ECPD-accredited associate degree program should be applicable toward the BET degree in the same option area. These programs normally constitute the first two years of the four-year option. However, transfer students may have to take a second-year course that is a prerequisite for a course that is normally scheduled in the third or fourth year.

Transfer of credit earned in a program that is not ECPD accredited is determined on an individual basis, with emphasis on: (1) the proportion and rigor of the mathematics, science and technical specialty courses; (2) the engineering and science backgrounds of the instructors who taught the transfer courses; and (3) the objectives of the program. After evaluation based upon these elements, students start in the engineering technology program at the level that is most compatible with their previously studied courses. This level can be determined by identifying through oral or written examination the students' depth of understanding of the basic principles within the specialty option selected.

Specific requirements and suggested semester breakdowns of the BET options are given in the following descriptions of the options.

**ENGINEERING TECHNOLOGY – GENERAL**

**Lower Division Courses**

100. Introduction to Electricity and Electronics. (4). 3R; 3L. An introduction to electrical fundamentals, basic AC and DC circuits, motors and generators, instruments, and diode and transistor fundamentals and applications in linear and digital circuits. Linear approximate models are used in the study of the diode and transistor. Laboratory experiments are utilized to reinforce and to verify concepts discussed in the classroom. Prerequisite: Math. 110 or equivalent. E 16 100 1 0925

200. Statics, Dynamics and Strength of Materials. (4). 3R; 3L. Introduction to the basic concepts of mechanics emphasizing the action of forces on rigid bodies and the response of those bodies to the applied forces. The first portion is devoted to the study of static or stationary bodies followed by a study of forces acting on bodies in motion (dynamics). A study of the principles of applied design. Laboratory experiments are performed to demonstrate and reinforce the basic concepts considered in the classroom. Prerequisites: Math. 110 and Phys. 213 or equivalent. E 16 200 1 0925

**Upper Division Courses**

300. Thermodynamics, Heat Transfer and Fluid Mechanics. (4). 3R; 3L. Application of fundamental concepts of work, heat and energy. First and second laws of thermodynamics as applied to the engineering technologist. A survey of the application of empirical and algebraic equations used in the solution of practical heat transfer problems involving conduction, convection and radiation. The applied principles of fluid flow, viscous flow in pipes and open channels. Prerequisites:
Math. 251 and Phys. 213 or equivalent. E
16 300 0 0925

455. Industrial Supervision. (3). A discussion of the techniques utilized in the supervision of employees in the industrial environment. Concepts of communication and control of industrial employees are discussed in detail. Concepts of employee motivation also are discussed. Problems and techniques utilized to meet production requirements through the utilization of human resources are dealt with in detail. Prerequisite: departmental consent. E
16 455 0 0925

ELECTRICAL ENGINEERING TECHNOLOGY OPTION

Sequence of Courses

A total of 124 hours is required for a degree. A total of 40 semester credit hours must be in courses numbered 300 and above. In no case will work done in a two-year college be credited against this 40-hour requirement.

| FRESHMAN |
|-----------------|-------------|
| **First Semester** | **Second Semester** |
| **Course** | **Hrs.** | **Course** | **Hrs.** |
| Math. 110, Technical Algebra and Trigonometry | 5 | Math. 251, Technical Calculus I | 3 |
| Eng. 101, College English I | 3 | Eng. 102, College English II | 3 |
| Engr. 125, Introduction to Engineering Concepts | 2 | Humanities and fine arts elective* | 3 |
| IE 110, Engineering Graphics | 2 | ET 100, Introduction to Electricity and Electronics | 4 |
| Engr. 127, Introduction to Digital Computing | 3 | EET 191, Electrical Drafting | 2 |
| | | | |
| **Total** | 15 | | 15 |

| SOPHOMORE |
|-----------------|-------------|
| **First Semester** | **Second Semester** |
| **Course** | **Hrs.** | **Course** | **Hrs.** |
| Math. 252, Technical Calculus II | 3 | EET 320, Electric Power and Machines | 4 |
| Phys. 213, General College Physics I | 5 | EET 214, Digital Electronic Circuits | 4 |
| EET 210, Electrical Circuit Analysis | 4 | Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication | 3 |
| EET 211, Linear Electronic Circuits | 4 | Phys. 214, General College Physics II | 5 |
| | | | |
| **Total** | 16 | | 16 |

*The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R 3L means 2 hours of lecture and 3 hours of lab.
## Junior

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Eng. 210, Composition: Business, Professional and Technical Writing</td>
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<tr>
<td>Chem. 103, General Chemistry</td>
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<td>ET 200, Statics, Dynamics and Strength of Materials</td>
<td>4</td>
</tr>
<tr>
<td>EET 350, Advanced Electrical Networks</td>
<td>3</td>
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**Total:** 15

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<tr>
<td>EET elective</td>
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<tr>
<td>ET 300, Thermodynamics, Heat Transfer and Fluids</td>
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**Total:** 16

## Senior

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<tr>
<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>ET 455, Industrial Supervision</td>
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<td>Non-EET technical electives</td>
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**Total:** 14

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<td>EET 450, Senior Design Project II</td>
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<tr>
<td>Social and behavioral sciences electives</td>
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<tr>
<td>Free elective</td>
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<tr>
<td>Humanities and fine arts elective</td>
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</table>

**Total:** 17

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### Lower Division Courses

**101. Electrical Drafting.** (2) 1R; 3L. The study and application of electrical and electronic symbols, wiring diagrams, block diagrams, electrical power diagrams, component lay out, etc., with emphasis on industry standards. Prerequisites: IE 110, or equivalent, and ET 100, or equivalent, or concurrent enrollment. E 16 101 1 0925

**210. Electrical Circuit Analysis.** (4) 3R; 3L. The study of the various theorems and techniques used to analyze DC and AC electrical circuits. Basic computer analysis techniques are introduced. Laboratory experiments are utilized to verify analysis concepts. Prerequisites: ET 100 and Math. 251 or equivalent. E 16 210 1 0925

**211. Linear Electronic Circuits.** (4) 3R; 3L. A study of the characteristics and applications of transistors, integrated circuits and other solid-state devices, with emphasis on their linear operating modes. Prerequisites: ET 100 and Math. 251 or equivalent. E 16 211 1 0925

**214. Digital Electronic Circuits.** (4) 3R; 3L. A study of nonlinear applications, including transient, wave-shaping, switching and logic circuits utilizing solid-state components and integrated circuits. An introduction to binary arithmetic and Boolean algebra. Prerequisite: ET 100 or equivalent. E 16 214 1 0925

### Upper Division Courses

**320. Electric Power and Machines.** (4) 3R; 3L. A study of single phase and polyphase power circuits, transformers and machines, and DC machines. Prerequisite: EET 210 or equivalent. E 16 320 1 0925
330. Advanced Electrical Networks. (3). An advanced course in network analysis that stresses network theorems and the solution of time and frequency domain problems by means of transform methods. Computer analysis techniques also are utilized. Prerequisites: EET 210, or equivalent, and Math. 252, or equivalent. E 16 330 0 0925

400. Senior Design Project I. (1). The first phase of an extensive individual design and/or analytical project performed in consultation with one or more faculty advisers. This phase includes the determination of project objectives, initial research, preliminary design and parts procurement. Prerequisite: senior standing or departmental consent. E 16 400 5 0925

411. Selected Topics in Electrical Engineering Technology. (1-4). New or special courses are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent. E 16 411 1 0925

450. Senior Design Project II. (2). The second phase of an extensive individual design and/or analytical project performed in consultation with one or more faculty advisers. This phase includes the completion and evaluation of the project. The results of the project are demonstrated and reported in oral and formal written form. Prerequisite: EET 400. E 16 450 3 0925

FIRE SCIENCE TECHNOLOGY OPTION

Sequence of Courses

A total of 124 hours is needed for a degree. A total of 40 semester credit hours must be in courses numbered 300 and above. In no case will work done in a two-year college be credited against this 40-hour requirement.

FRESHMAN

<table>
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<tr>
<th>Course</th>
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<tr>
<td>Math. 110, Technical Algebra and Trigonometry</td>
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<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>IE 110, Engineering Graphics I</td>
<td>2</td>
</tr>
<tr>
<td>FST 132, Industrial Fire Safety</td>
<td>3</td>
</tr>
<tr>
<td>Engr. 125, Introduction to Engineering Concepts</td>
<td>2</td>
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<tr>
<td>Eng. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>FST 133, Construction Methods and Materials</td>
<td>3</td>
</tr>
<tr>
<td>FST 134, Introduction to Fire Protection and Suppression</td>
<td>3</td>
</tr>
<tr>
<td>ET 100, Introduction to Electricity and Electronics</td>
<td>4</td>
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College of Engineering/Technology 199
### SOPHOMORE

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>Phys. 213, General College</td>
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<tr>
<td>Physics I</td>
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<tr>
<td>FST 135, Fundamentals of Fire Prevention</td>
<td>3</td>
</tr>
<tr>
<td>FST 303, Water Supplied Fire Protection Systems</td>
<td>3</td>
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<tr>
<td>FST 202, Fire Protection Management</td>
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<td>Mathematics/computer science/natural sciences elective</td>
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<td>Phys. 214, General College</td>
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<tr>
<td>Physics II</td>
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<tr>
<td>FST 302, Fire Fighting Tactics and Strategy</td>
<td>3</td>
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<td>FST 301, Fire Hydraulics</td>
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<td>Social and behavioral sciences elective</td>
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<td>Speech 111, Basic Public Speaking, or</td>
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<tr>
<td>Speech 112, Basic Interpersonal Communication</td>
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### JUNIOR

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<td>Chem. 103, General Chemistry</td>
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<td>FST 310, Hazardous Materials</td>
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<td>Humanities and fine arts elective *</td>
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<table>
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<th>Course</th>
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<tbody>
<tr>
<td>FST 482, Urban Fire Protection</td>
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<tr>
<td>ET 200, Statics, Dynamics and Strength of Materials</td>
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<tr>
<td>FST 311, Fire Investigation</td>
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<tr>
<td>Social and behavioral sciences elective</td>
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<tr>
<td>Humanities and fine arts elective *</td>
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### SENIOR

<table>
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<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Admin. 348, Introduction to Insurance</td>
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<tr>
<td>FST 492, Risk Management</td>
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<tr>
<td>MFT 257, Industrial Safety</td>
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<td>Technical electives</td>
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<table>
<thead>
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<th>Course</th>
<th>Hrs.</th>
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<tr>
<td>ET 306, Thermodynamics, Heat Transfer and Fluids</td>
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<tr>
<td>FST 350, Emergency Rescue Problems and Procedures</td>
<td>3</td>
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<tr>
<td>Humanities and fine arts or social and</td>
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<tr>
<td>behavioral sciences elective *</td>
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<td>Free electives</td>
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<tr>
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<td><strong>15</strong></td>
</tr>
</tbody>
</table>

* Not fewer than 6 hours may be taken in each division. No more than 9 hours may be taken in any one department in these divisions. In each division, courses must be taken in at least two departments. At least 8 hours of General Studies courses must be taken. Six credit hours must be in 300-level courses and above.

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### Lower Division Courses

132. Industrial Fire Safety. (3). 2R; 2L.
An examination of the causes and effects of industrial fires by examining industrial processes, equipment, facilities and common work practices of industry. Special emphasis will be placed on, but not limited to, the following subjects: (1) criteria for flammable liquid use, handling and storage, (2) warehousing of combustible commodities, (3) preplanning for emergencies and (4) dip tank and spray booths.

Prerequisite: departmental consent. E 16 132 1 0925

133. Construction Methods and Materials. (3). The analysis of various building materials relative to their physical properties and their reaction to fire. The course includes the study of various building configurations and their applicability to specific hazardous industrial operations. Concepts of fire-resistant enclosures, par-
tions, fire walls or cutoffs are discussed as they pertain to the degree of the fire hazards present. Possible sources of ignition as related to the vulnerability of the structure are also treated in some detail. Prerequisite: departmental consent. E 16 133 0 0925

134. Introduction of Fire Protection and Suppression. (3). History and philosophy of fire protection, including review of statistics of loss of life and property by fire; introduction to agencies involved in fire protection; current legislative developments and career orientation; a discussion of current related problems; and a review of expanding future fire protection problems. Also included are a survey of fire suppression organizations; basic elements of fire ground tactics and organization; manpower and equipment utilization; and survey of building designs, construction, hazardous materials, extinguishing agents, equipment and apparatus. E 16 134 0 0925

135. Fundamentals of Fire Prevention. (3). Fire department organizations; inspections, public cooperation and image; recognition of fire hazards and development and implementation of a systematic and deliberate inspection program; survey of local, state and national codes pertaining to fire prevention and related technology. E 16 135 0 0925

202. Fire Protection Management. (3). A study of the basic managerial structure as it applies to the effectiveness of a fire protection organization. Prerequisite: departmental consent. E 16 202 0 0925

Upper Division Courses

301. Fire Hydraulics. (3). Application of the laws of mathematics and physics to properties of fluid states, force, pressure and flow velocities. Emphasis is on applying principles of hydraulics to firefighting problems. E 16 301 1 0925

302. Fire-Fighting Tactics and Strategy. (3). Efficient and effective utilization of manpower, equipment and apparatus. Emphasis is placed on planning, fire ground organization problem solving related to fire ground decision making, and attack tactics and strategy. E 16 302 0 0925

303. Water Supplied Fire Protection Systems. (3). 2R; 2L. An indepth analysis of water supplied fire protection systems. Specific topics of study will include (1) automatic sprinkler protection, (2) Deluge systems, (3) pre-action systems, (4) fire hydrants operating criteria, (5) fire pumps and (6) stand pipes. E 16 303 1 0925

310. Hazardous Materials. (3). A review of basic chemical properties, storage requirements, handling precautions, laws, standards and fire-fighting practices related to hazardous materials. Prerequisite: departmental consent. E 16 310 0 0925

311. Fire Investigation. (3). Introduction to arson and incendiarism, legal aspects of arson and methods of setting incendiary fires. Also included are an analysis of the causes of fire, techniques for recognizing and preserving evidence and the means for interviewing and detaining witnesses. Procedures utilized in handling juveniles, court procedures and the giving of court testimony are also covered. Prerequisite: departmental consent. E 16 311 0 0925

350. Emergency Rescue Problems and Procedures. (3). A discussion of the rescue procedures required by emergency personnel to perform their job. Also covered are the specific hazards associated with natural and man-made disasters that are the results of modern, technical society. Particular emphasis is given to the application of current hardware and procedural developments in the area of emergency rescue. E 16 350 0 0925

422. Selected Topics in Fire Science Technology. (1-4). New or special courses are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent. E 16 422 1 0925

482. Urban Fire Protection as Related to City Planning. (3). Engineering analysis and design of urban fire facilities, including water supply, fire alarm systems and the development of fire departments. Socioeconomic and management factors as related to city fire protection planning. Prerequisite: junior standing. E 16 482 0 0925

492. Fire Risk and Loss Management. (3). An analysis of business uncertainty; recognition of risks and their related loss potential; fire loss reduction through management control and protection systems. Assumption of risks through insurance programs. A study of security and liability as associated with condition of uncertainty. E 16 492 0 0925

498. Fire Science Research Projects. (1-3). Selection and research of current topics in the field of fire science. Presentation of results of the research in the defending of any hypotheses advanced. Prerequisite: senior standing. E 16 498 3 0925

College of Engineering/Technology 201
MANUFACTURING ENGINEERING TECHNOLOGY OPTION

Sequence of Courses

A total of 124 hours is required for a degree. A total of 40 semester credit hours must be in courses numbered 300 and above. In no case will work done in a two-year college be credited against this 40-hour requirement.

### FRESHMAN

<table>
<thead>
<tr>
<th>First Semester</th>
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<tr>
<td>Math. 110, Technical Algebra and Trigonometry</td>
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<td>Eng. 101, College English I</td>
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<td>IE 110, Engineering Graphics I</td>
<td>2</td>
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<td>Engr. 125, Introduction to Engineering Concepts</td>
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<td>Engr. 127, Introduction to Digital Computing</td>
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<td>Eng. 102, College English II</td>
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</tr>
<tr>
<td>IE 213, Engineering Graphics II</td>
<td>2</td>
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<tr>
<td>MFT 120, Manufacturing Practices</td>
<td>3</td>
</tr>
<tr>
<td>ET 100, Introduction to Electricity and Electronics</td>
<td>4</td>
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### SOPHOMORE

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<td>Phys. 213, General College Physics I</td>
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<td>MFT 240, Manufacturing Processes and Materials</td>
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<th>Hrs.</th>
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<tr>
<td>MFT 257, Industrial Safety</td>
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<td>Phys. 214, General College Physics II</td>
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</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>ET 200, Statics, Dynamics and Strength of Materials</td>
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### JUNIOR

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<tr>
<td>ET 300, Thermodynamics, Heat Transfer and Fluids</td>
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<tr>
<td>MFT 355, Manufacturing Economic Analysis</td>
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<td>Chem. 103, General Chemistry</td>
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<td>Humanities and fine arts or social and behavioral sciences elective</td>
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<td>Eng. 210, Composition: Business, Professional and Technical Writing</td>
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<tr>
<td>MFT 313, Production and Quality Control</td>
<td>3</td>
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<td>MFT 352, Work Measurement and Management</td>
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<td>Free elective</td>
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SENIOR

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<th>Second Semester</th>
<th>Hrs.</th>
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<tr>
<td>ET 455, Industrial Supervision</td>
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<td>MFT 469, Technology Projects</td>
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<td>MIT electives</td>
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</table>

16 16

* Not fewer than 6 hours may be taken in each division. No more than 9 hours may be taken in any one department in these divisions. In each division, courses must be taken in at least two departments. At least 8 hours of General Studies courses must be taken in these divisions. Six credit hours must be taken in 300-level courses and above.

† Electives must be selected from the following in consultation with an academic adviser in order to assure that the total group of courses taken is consistent with the goals of the student:
1. Courses from the other options for which the prerequisite requirements are met, and/or,
2. Additional mathematics, computer science or natural sciences courses for which the prerequisite requirements are satisfied, and/or,
3. Stat. 360 or 370, and/or,
4. Approved courses from the College of Business Administration, including Acctg. 210, Admin. 101G, 300, 360, 366 and 664, Econ. 200G, 201, 202 and 350.

Lower Division Courses

120. Manufacturing Practices. (3). 2R; 3L. A general survey of the manufacturing and fabricating techniques utilized in industry. Special emphasis is placed on the latest manufacturing processes utilized in American industry. Laboratory activities give the student practice in some of the basic fabrication methods. Prerequisite: Math. 110 or equivalent. E 16 120 1 0925

233. Special Topics in Manufacturing Engineering Technology. (1-4). Special course offerings are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent. E 16 233 0 0925

240. Manufacturing Processes and Materials. (4). 3R; 3L. A technical study of the processes and materials used in manufacturing, including metal and nonmetal cutting, casting, forming, welding, testing techniques, etc. Theory, technical aspects, application and cost analysis are stressed, with laboratory experience in applications using machines. Prerequisite: MFT 120 or equivalent. E 16 240 1 0925

257. Industrial Safety. (3). A study of safety fundamentals and their relationship to the economics of accident prevention. The requirements of industrial compensation and safety legislation are emphasized. Prerequisite: departmental consent. E 16 257 0 0925

Upper Division Courses

313. Production and Quality Control. (3). Application of fundamental statistics to the quality control problem emphasizing discussion of acceptance sampling and statistical control charts. Aspects of inventory control and of programmatic production planning are developed. Prerequisite: Math. 110 or equivalent. E 16 313 0 0925

315. Advanced Manufacturing Methods. (3). 2R; 3L. A study of state-of-the-art techniques as applied to manufacturing processes such as chipless machining, advanced welding, ultrasonic processes and other new and exotic methods. Laboratory activity includes field trips to area industrial plants to observe and study actual processes in operation. Prerequisite: departmental consent. E 16 315 1 0925

352. Work Measurement and Management. (3). 2R; 3L. The equipment and techniques of work measurement, time standardization and method simplification are developed. The organization and management of production is presented, working from the individual worker to larger organizational groups. Prerequisite: Math 110 or equivalent. E 16 352 1 0925

355. Manufacturing Economic Analysis. (3). A study of the effects of economic conditions and principles on the technical aspects of industrial operations. The eco-
conomic influence on alternative approaches to technical problems are considered. Pre­
requisite: departmental consent. E 16 355 0 0925

433. Selected Topics in Manufacturing Engineering Technology. (1-4). New or special courses are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent. E 16 433 1 0925

MECHANICAL ENGINEERING TECHNOLOGY OPTION

Sequence of Courses

A total of 124 (125) hours is required for a degree. A total of 40 semester credit hours must be in courses numbered 300 and above. In no case will work done in a two-year college be credited against this 40-hour requirement.

FRESHMAN

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
</tr>
<tr>
<td>Math. 110, Technical Algebra and Trigonometry</td>
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<tr>
<td>Eng. 101, College English I</td>
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<tr>
<td>Engr. 125, Introduction to Engineering Concepts</td>
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<tr>
<td>IE 110, Engineering Graphics I</td>
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<td>Engr. 127, Introduction to Digital Computing</td>
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SOPHOMORE

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<td><strong>Course</strong></td>
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<td>Math. 252, Technical Calculus II</td>
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<td>Phys. 213, General College Physics I</td>
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<td>MFT 240, Manufacturing Processes and Materials</td>
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<td>Social and behavioral sciences elective</td>
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JUNIOR

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<tbody>
<tr>
<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
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<tr>
<td>MET 340, Machine Design</td>
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<tr>
<td>Chem. 103, General Chemistry</td>
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<tr>
<td>MET 342, Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>ET 300, Thermodynamics, Heat Transfer and Fluids</td>
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</tr>
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<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

469. Technology Projects. (4). 1R, 6L. An individual project performed by a student or group of students in the area of manufacturing and/or industrial technology. On-the-job type project activity under the direction and control of a faculty adviser. Prerequisites: senior standing and departmental consent. E 16 469 1 0925
Upper Division Courses

340. Machine Design. (4). 3R; 3L. The application of the principles of mechanics and strength of materials to the design of shafts, cams, gears, belts, clutches, brakes and their assemblies as used in machines. Prerequisites: MET 340 and/or department consent and ET 200, or equivalent, and IE 110, or equivalent. E 16 340 1 0925

342. Instrumentation. (3). 2R; 3L. A practical course dealing with the selection, care, installation, and calibration of pneumatic, mechanical and electronic elements and systems used to sense, indicate, control and/or record such things as pressure, temperature and flow in industrial processes. Prerequisites: Phys. 214, or equivalent, and ET 100, or equivalent. E 16 342 1 0925

344. Mechanical Design I. (4). 2R; 6L. The first of three mechanical design project courses that introduce students to the proper method of applying technical science principles to the design of heating and air-conditioning equipment and machinery, power transmission, and fluid power mechanisms, and piping. Proper procedures for structural detailing and for compliance with established codes and standards are stressed. Prerequisites: MET 340 and/or department consent and ET 200. E 16 344 3 0925

409. Mechanical Design II. (4). 2R; 6L. A project course in which students apply the proper design principles and techniques to the solution of a practical design problem. Laboratory activity may include design, modeling, fabrication and/or testing. Prerequisite: MET 344. E 16 409 3 0925

410. Mechanical Design III. (4). 2R; 6L. A project course in which students apply the proper design principles and techniques to the solution of a practical design problem involving different areas from those covered in MET 409. Laboratory activity may include design, modeling, fabrication and/or testing. Prerequisite: MET 409. E 16 410 3 0925

444. Selected Topics in Mechanical Engineering Technology. (1-4). New or special courses are presented under this listing on sufficient demand. Repeatable for credit. Prerequisite: departmental consent. E 16 444 1 0925
Auguste Rodin, *Dance Movement A*
The College of Fine Arts is responsible for instruction and education, creative activity and scholarly inquiry, performance and practice in music, dance and visual arts. The Division of Art and the Division of Music offer professional training programs at both the undergraduate and graduate levels. The Dance Program formally joined the College of Fine Arts in July, 1978. The long-range objectives for Dance parallel those for Music and Art. Inquiries regarding curricular offerings and related experiences in Dance should be directed to the office of the Dean of the College of Fine Arts.

The College of Fine Arts is receptive to new and challenging concepts and experimental ideas to keep the arts in the forefront of contemporary society. The college seeks to expand the overall concept of art in society and serves as a laboratory for new artistic ideas, experiences and philosophies in all art media and in all areas of artistic thought and expression.

Students are offered a complete spectrum of artistic endeavors, whether they are interested in professional activities, teaching careers, graduate study or increased knowledge about the arts. Students have the opportunity to explore various art forms with an open mind, thus developing their ability to respond to changes, developments and challenges within the art world of the future. The college strives to develop the new techniques, historical research and information necessary to achieve these ends. Students are also urged by the college to be active in the arts of the present time. The college further seeks to make the arts an integral part of the lives of all students and to expand the role of the arts in the many communities that it serves.

**Policies**

**ADMISSION**

All entering freshmen are enrolled in University College. Upon completing 24 semester hours of specified courses with a minimum grade point average of 2.00, students are eligible to enroll in the Division of Art or the Division of Music.

Transfer students may enroll in the College of Fine Arts if their transcripts indicate that they have completed a minimum of 24 semester hours with a minimum grade point average of 2.00 (C). Students with a grade average of at least 1.70, but less than 2.00, may petition for admittance. Transfer students who do not meet the minimum requirements of 24 semester hours and a grade point average of 2.00 are enrolled in University College.
PROBATION AND DISMISSAL

Students are expected to make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

Students are required to maintain an overall grade point average of at least 2.00. Students enrolled in either the music education or art education programs must have a cumulative grade point average of 2.25 prior to enrolling in student teaching.

Students who do not achieve or maintain the required 2.00 grade point average will be placed (or continued) on probation at the conclusion of each semester in which their overall grade point average falls below 2.00. Students on probation are limited to a maximum of 12 credit hours per semester while on probation. Students failing to maintain a current average of 2.00 in each semester in which they are on probation will be dismissed from the University, unless they have not attempted 12 semester hours since the beginning of the probationary period.

Transfer students admitted on probation must complete at least 12 semester hours with a minimum grade point average of 2.00 on work at Wichita State before probation may be lifted. If a grade point average of 2.00 is not achieved for the first attempted 12 hours of Wichita State work, transfer students admitted on probation will be dismissed from the University.

Students who have been dismissed for poor scholarship may be readmitted by the permission of the Curriculum and Policy Committee of their major division in the College of Fine Arts and by the University’s Committee on Admissions and Exceptions.

Degrees Offered

The College of Fine Arts offers four undergraduate degrees: Bachelor of Fine Arts (BFA), Bachelor of Art Education (BAE), Bachelor of Music (BM) and Bachelor of Music Education (BME). Graduation requirements for each degree are listed in the descriptions of the appropriate division programs.

The college also offers four graduate degrees, including the Master of Fine Arts (MFA), Master of Arts (MA), Master of Music Education (MME) and Master of Music (MM). Graduate degrees are further explained in the Wichita State University Graduate Bulletin.

DIVISION OF ART

The Division of Art, a part of the College of Fine Arts, is divided into four departments: art education, art history, graphic design and studio arts—with its four areas of drawing-painting, printmaking, ceramics and sculpture. The division’s faculty pride themselves in their profes-
sional attainment as productive researchers and creative and exhibiting artists.

The departments offer professional courses designed to train and educate art students who are planning careers in the arts and to allow students in other colleges to gain an understanding and appreciation of art.

Art students have excellent facilities in the McKnight Art Center and renovated Henrion Annex. The Center provides extensive space for exhibiting student work. The Clayton Staples Gallery, designed specifically for undergraduate and graduate students and invitational shows, was completed January, 1978. This gallery allows the students and guests to experience an exhibition in a professional gallery surrounding.

Under the auspices of the Edwin A. Ulrich Museum of Art, located 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 also provides programs of guest artists and lecturers of regional, national and international interest.

The Division of Art offers both the Bachelor of Fine Arts (BFA) and the Bachelor of Art Education (BAE). Students majoring in studio arts (painting, printmaking, ceramics or sculpture), graphic design and art history may obtain the BFA. Students in art education receive the BAE and must meet state requirements for teacher certification.

**General Policies**

Students are not allowed credit toward graduation for D grade work in excess of one-fourth of the total hours. A grade average of 2.00 or better must be earned on all work taken at Wichita State that can be applied to a student’s degree.

The division will accept the transfer of only 1 credit hour per semester of nonresidential studio work (such as extension or correspondence courses from accredited institutions), totaling no more than 6 hours of the last 30 or 10 hours of the total number of hours required for graduation.

The University’s general education requirements can be satisfied by all art history courses except Art Hist. 426.

The division controls all art work or essays submitted for credit by students and reserves the right to select certain pieces for its permanent collection.

All art materials, with the exception of certain nonexpendable equipment, must be furnished by the students.

**Graduate Art Studies**

The Graduate School offers a program leading to the Master of Fine Arts (MFA), with emphases in ceramics, painting, printmaking and
sculpture, or the Master of Arts (MA) in art education. For information concerning the requirements for entrance and curriculum, see the art section in the *Wichita State University Graduate School Bulletin*.

**Art Major or Minor Outside the College of Fine Arts**

**FAIRMOUNT COLLEGE OF LIBERAL ARTS AND SCIENCES**

*Studio Arts.* Liberal arts students wishing to major in studio arts must complete 39 hours of art. These hours must include Art Hist. 121G, 122G, 9 hours elected from art history courses and 24 hours elected from studio courses.

Liberal arts students wishing to minor in studio arts must complete 21 hours of art, including Art Hist. 121G, 122G and 15 hours of electives.

*Art History.* Liberal arts students wishing to major in art history must complete 30 hours of art history, including Art Hist. 121G, 122G and 426. A minimum of 13 hours in one language (German, French or Italian) is also required.

Liberal arts students wishing to minor in art history must complete 15 hours of art history, including Art Hist. 121G, 122G and 9 hours elected from other art history offerings.

**COLLEGE OF EDUCATION**

Students in education who wish to minor in art need to complete 18 hours of art. These hours must be distributed as follows: SA (Drawing) 145, Art Ed. 210 and 313, one elected studio course, and 6 hours of Art Hist. 121G and 122G.

**Graduation Requirements**

**BACHELOR OF FINE ARTS**

In addition to the University’s scholastic and residence requirements for graduation, candidates for the BFA in painting, printmaking, ceramics, sculpture or graphic design must complete a total of 124 semester hours, with 43 hours from the General Education Program (given in the Academic Information—Requirements for Graduation section in the beginning of the *Catalog*) and 81 hours from the art curriculum. Students majoring in art history must complete a total of 124 semester hours, with 45 hours from the General Education Program and 79 from art history and elective curriculum hours. Specific programs for each of these areas are described under the appropriate department’s heading on the following pages. Students must consult with their adviser before selecting electives.
BACHELOR OF ART EDUCATION

The specific requirements for the BAE are given in the Art Education section of the Catalog.

Art Education

The art education department offers a professional program for students interested in teaching art. The art education structured program prepares majors to teach and supervise at various educational levels, and all majors are required to specialize in a studio or art history program.

BACHELOR OF ART EDUCATION

In addition to meeting the University's scholastic residence requirements for graduation, candidates for the BAE must complete a minimum of 128 semester hours, with 51 hours in the General Education Program, 58 in the art curriculum and 19 in education. The General Education Program is described in detail in the Academic Information—Requirements for Graduation section in the beginning of the Catalog. Electives must be selected in consultation with an adviser.

The art education program fulfills both the University general education requirements for graduation and the Kansas certification requirements for teaching art at the secondary and elementary levels.

STUDENT TEACHING

Admission into the student teaching semester requires senior standing (90 hours or 200 credit points); a minimum cumulative grade point average of 2.25 and 2.50 in art courses at the time of application for student teaching; a grade of C or better in English composition (Eng. 101 or its equivalent); a grade of C or better in oral communication; completion of instructional services and art education prerequisites; satisfactory physical examination; and recommendation by the Department of Art Education. Students must apply for student teaching and have the approval of the chairperson of art education by midterm of the spring semester prior to the academic year in which they plan to student teach.

OUTLINE OF PROGRAM

A total of 128 hours is required, as distributed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Art Curriculum</td>
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<td>Art education</td>
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<td>Art specialization</td>
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<td>Education</td>
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<tr>
<td>General Education Program</td>
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</table>

College of Fine Arts/Art Education 211
# Model Program

## FRESHMAN

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<th>First Semester</th>
<th>Hrs.</th>
<th>Second Semester</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
</tr>
<tr>
<td>SA (Drawing) 145, Drawing I</td>
<td>3</td>
<td>SA (Printmaking) 160, Printmaking I</td>
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<tr>
<td>SA (Ceramics) 170, Ceramics I</td>
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<td>SA (Sculpture) 180, Sculpture I</td>
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<tr>
<td>General education: Art Hist. 121G, 122G or 124</td>
<td>3</td>
<td>General education: Art Hist. 121G, 122G or 124</td>
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<tr>
<td>Eng. 101, College English I</td>
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<td>Eng. 102, College English II</td>
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<tr>
<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
<td>3</td>
<td>General education</td>
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<td><strong>Total</strong></td>
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## SOPHOMORE

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<th>First Semester</th>
<th>Hrs.</th>
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<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
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<tr>
<td>Art Ed. 211 or 311, Art Education in the Elementary School or Art Education Curriculum in the Elementary School</td>
<td>3</td>
<td>Art Ed. 313, Fiber Exploration for the Classroom</td>
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<td>SA (Painting) 250, Oil Painting</td>
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<td>GD 230, Basic Photography (Still)</td>
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<td>Art specialization elective</td>
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<tr>
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## JUNIOR

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<td><strong>Course</strong></td>
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<tr>
<td>Art Ed. 414, Art Education in the Secondary School</td>
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<td>Art Ed. 515, Developing Visual Materials for Art Education</td>
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<td>Art elective (3-D area)</td>
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<tr>
<td>Art specialization elective</td>
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<td>IS 234, Philosophy and History of Education</td>
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<td>IS 333, Educational Psychology: Adolescent Development</td>
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<td>IS 428, Social and Cultural Foundations of Education</td>
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## SENIOR

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<td><strong>Course</strong></td>
<td><strong>Hrs.</strong></td>
</tr>
<tr>
<td>Art Ed. 516, Art Education Practicum</td>
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<td>Art Ed. 517, Student Teaching Seminar in Art</td>
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<td>Art elective (2-D area)</td>
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<td>IS 462, Student Teaching—Secondary School</td>
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<td>Art specialization elective</td>
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<td>General education</td>
<td>3</td>
</tr>
<tr>
<td>IS 433, Educational Psychology: Learning and Evaluation</td>
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<td>General education</td>
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<td>General education</td>
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<td><strong>Total</strong></td>
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<td><strong>Total</strong></td>
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</tbody>
</table>
Lower Division Courses

210. Visual Arts for the Child. (3). For students without previous art background who plan to teach in the elementary school classroom. Fundamental methods, materials and concepts used to develop art knowledge and skills in the elementary-age levels are studied. F 14 210 0 0831

211. Art Education in the Elementary School. (3). A study of philosophy, psychology and sensory growth of the elementary-age student, with emphasis on the development of the art program for this level. Prerequisite: art education major, or Art Ed. 210, or instructor's consent. F 14 211 0 0831

Upper Division Courses

311. Art Education Curriculum in the Elementary School. (3). A study of developmental characteristics of the elementary-age student and the development of the art program with respect to materials, skills and knowledge content. Prerequisite: art education major. F 14 311 0 0831

313. Fiber Exploration for the Classroom. (3). The course will focus on fiber experiences appropriate for the classroom on the intermediate or secondary level. Weaving, braiding, twisting techniques that result in a fabric or web will be explored on various kinds of looms. Prerequisites: art education major or instructor's consent. F 14 313 1 0831

413. Independent Study. (1-4). Directed independent study in art education not normally covered in other course work. Prerequisite: instructor's consent. F 14 413 0 0831

414. Art Education in the Secondary School. (3). A study in the philosophy, objectives and classroom procedures related to the teaching of art at the secondary level. Prerequisite: art education major. F 14 414 0 0831

Courses for Graduate/Undergraduate Credit

515. Developing Visual Materials for Art Education. (3). A production laboratory that concentrates on the use of technological equipment for making multimedia experiences (films, slides, tapes, projectors, etc.) for art education students. Students engage in constructing units of visual learning. F 14 515 1 0831

516. Art Education Practicum. (3). The development of art curriculum materials for elementary and secondary levels with an emphasis on individual approaches. Students will enroll in this course the semester before student teaching. Prerequisite: concurrent enrollment in IS 433. F 14 516 0 0831

517. Student Teaching Seminar in Art. (1). The objective is to analyze problems encountered in the art classroom during student teaching. Concurrent enrollment in 7 hours of student teaching courses is required. Prerequisites: Art Ed. 516 and departmental approval for student teaching. F 14 517 9 0831

711. Seminar in Art Education. (3). Supervised study and research. Weekly consultation and reports are required. Repeatable once for credit. Prerequisite: instructor's consent. F 14 711 9 0831

712. Development of Art Understanding in the Educational Program. (3). Readings, observation and evaluative techniques in the development of concepts and materials for art understanding. Repeatable once for credit. Prerequisite: instructor's consent. F 14 712 0 0831

713. Fiber and Fabric Processes. (3). Fiber processing and structuring in traditional and experimental processes in woven forms and other structural techniques using natural and man-made fibers. Prerequisite: instructor's consent. F 14 713 0 0831

715. Research Problems in Art Education. (3). Orientation in research methods, findings and designs related to the analysis of studies and current problems in art education. Repeatable once for credit. Prerequisite: instructor's consent. F 14 715 0 0831

750. Art Workshop. (1-3). Repeatable for credit. (The area to be covered is determined at the time the course is offered.) F 14 750 2 0831

College of Fine Arts/Art Education 213
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. F 14 815 4 0831

816-817. Thesis—Art Education. (2-2). F 14 816 4 0831; F 14 817 4 0831

818-819. Terminal Project—Art Education. (3-3). F 14 818 3 0831; F 14 819 3 0831

Art History

The art history program is designed to prepare students for the whole range of activities related to the art of the past: criticism, both college- and secondary-level teaching, and conservation. Students are exposed to a view of art from the earliest times to the present. The language of art, as well as the historical framework, is emphasized.

Requirements. A total of 124 hours is required for a major, as distributed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
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</thead>
<tbody>
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<tr>
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<td>Foreign language</td>
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<td>Elective</td>
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<tr>
<td>General Education Program</td>
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Model Program

**FRESHMAN**

<table>
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<th>Hrs.</th>
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<tbody>
<tr>
<td>Art Hist. 121G, Survey of Western Art:</td>
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</tr>
<tr>
<td>Paleolithic Through Early Christian</td>
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</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>General education</td>
<td>3</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking or</td>
<td></td>
</tr>
<tr>
<td>112, Basic Interpersonal Communication</td>
<td>3</td>
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</table>

**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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**SOPHOMORE**

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### Lower Division Courses

121G. Survey of Western Art: Paleolithic Through Early Christian. (3). A historical survey of art from prehistoric origins to the Middle Ages. F 15 121G 0 1003

122G. Survey of Western Art: Renaissance and Baroque. (3). A historical survey of art from the Renaissance to the 19th century. F 15 122G 0 1003

124. Survey of Western Art: Modern. (3). An introduction to art through the study of a selected group of art objects produced in Europe and America from the 18th century to the present. F 15 124 0 1003

221. Greek Art. (3). An introductory study of Greek art from the Archaic to Hellenistic periods. The course covers architecture, sculpture, and vase painting, with emphasis on the art of Pericles' Athens. F 15 221 0 1003

222. Roman Art. (3). An introduction to the art of Rome from the age of Augustus to the age of Constantine. F 15 222 0 1003

223. Northern Renaissance. (3). A study of French, Flemish, and German painting from Parisian illumination in the 14th century to Durer. F 15 223 0 1003

224. Northern Baroque. (3). A study of the art of Flanders and Holland during the 17th century. While a variety of artistic expression is shown with examples from a great many artists, the discussion culminates in an extensive study of the two dominant figures, Peter Paul Rubens and Rembrandt van Rijn. F 15 224 0 1003

### Upper Division Courses

322. Medieval Art I. (3). A study of the art of Europe and Byzantium from the time of Constantine to Charlemagne. Emphasis is on style and iconography as it develops in mosaic and illustrated manuscripts. F 15 322 0 1003

323. Medieval Art II. (3). A study of Romanesque and Gothic architecture and sculpture, with special attention being given to the developments in France. F 15 323 0 1003

324. Art of the Ancient Near East. (3). Survey of the arts of ancient Egypt and Mesopotamia, concluding with a consideration of the interaction between Near Eastern art and classical art. F 15 324 0 1003

327. Art of Africa, Oceania and the Americas. (3). A broad survey of art produced by cultures of sub-Saharan Africa, Melanesia, Micronesia, Polynesia, and pre-Colombian Americas. F 15 327 0 1003

426. Seminar: Techniques of Art History. (3). A culminating study for seniors majoring in art history in which the history of the discipline, its research methods and theory are considered. Extensive readings and reports are required. Prerequisite: instructor's consent. F 15 426 9 1003

College of Fine Arts/Art History 215
Courses for
Graduate/Undergraduate Credit

520. Seminar in Art History. (3). Supervised study and research. Weekly consultation and reports are required. Individual areas are not repeatable for credit. Prerequisite: instructor’s consent. F 15 520 0 1003

521. Italian Renaissance. (3). A study of the architecture, sculpture and painting from the 13th to the 16th century. Emphasis is given to early developments in Florence and Siena and late developments in Rome. F 15 521 0 1003

522. Italian Baroque. (3). A study of Baroque painting, sculpture and architecture in Rome, Venice and Bologna from 1600 to 1750, with emphasis on the Carracci, Bernini and Tiepolo. F 15 522 0 1003

523. 18th and 19th Century European Art. (3). A history of European art from Watteau through post-Impressionism. F 15 523 0 1003

524. 18th and 19th Century American Art. (3). A history of American art from the colonial period through the 19th century. F 15 524 0 1003

525. 20th Century Art Before 1945. (3). A history of American and European art in the first half of the 20th century. F 15 525 0 1003

526. Art Since 1945. (3). 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. F 15 526 0 1003

527. Seminar: Art of the 18th and 19th Centuries. (3). Selected readings and problems in 18th and 19th century art, emphasizing aesthetic theory and the history of ideas. Prerequisite: instructor’s consent. F 15 527 0 1003

528. Museum Techniques I. (3). Designed primarily for the graduate student interested in museum work. Included is specialized research related to administrative responsibilities of a museum: collection, exhibition, recording, preservation and financial activities. F 15 528 0 1003

529. Modern Architecture. (3). A course designed to offer an overall view of the development of modern architecture from its inception in the early 20th century until today. Theoretical connections between architecture and the arts of painting and sculpture as they developed in the United States and Europe are stressed. F 15 529 0 1003

621. The Art of Classical Greece. (3). A study of painting, sculpture and architecture of Greece during the 5th and 4th centuries B.C. F 15 621 0 1003

626. Bibliography and Information Retrieval in Art History. (3). A course to prepare art history majors for research on the graduate school level. The student is introduced to the various research resources, such as bibliographies, indexes, collections, concordances and compilations. Practical assignments for information retrieval provide the experience necessary for mastering research techniques. Prerequisite: 9 hours in art history. F 15 626 0 1003

Graphic Design—Commercial Art

The graphic design department offers a professional program for students interested in a career in the field of visual communication. The courses emphasize conceptual and practical problem solving in various media—photography, typography, design and drawing—to develop design skills for communication.
Requirements. A total of 125 hours is required for a major as distributed below.

Students with junior standing participate in a Junior Portfolio Review prior to counseling for their senior year.

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<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Art Curriculum (minimum)</td>
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<tr>
<td>Graphic design core</td>
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<td>Art electives (100-200 level)</td>
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<tr>
<td>Graphic design electives (300-level)</td>
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<td>Graphic design electives (400-500 level)</td>
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<tr>
<td>Art electives (300-400-500 level)</td>
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<tr>
<td>General Education Program</td>
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</table>

The following are the specific requirements for the art curriculum section:

1. Students must elect 12 hours of lower division art electives from the following courses (substitutions must be approved by the graphic design chairperson): Ind. Ed. 190, Visual Communications; SA (Drawing) 240, Life Drawing (repeat); SA (Painting) 251, Watercolor Painting; SA (Printmaking) 160, Printmaking I; SA (Ceramics) 170, Ceramics I and SA (Sculpture) 180, Sculpture I.

2. Students must elect 12 hours of upper division graphic design (300-level) courses from the following courses: GD 330, Design Media Studio (may be repeated twice); GD 332, Fashion Illustration I; GD 333, Fashion Illustration II; GD 337, Advertising Illustration (may be repeated twice); and GD 339, Exhibition Design (may be repeated twice).

3. Students must elect 12 hours of upper division art electives (300-400-500 level) from the following courses: SA (Drawing) 340, Life Drawing Studio; SA (Drawing) 345, Intermediate Drawing; Art Hist. 525, 20th Century Art Before 1945; Art. Hist. 526, Art Since 1945; Eng. 307, Narrative in Literature and Film or other as approved by the department chairperson.

4. Students must elect 9 hours of upper division graphic design courses (400-500 level) from the following courses: GD 433, Advanced Fashion Illustration (may be repeated twice); GD 437, Advanced Advertising Illustration (may be repeated twice); GD 438, Advanced Color and Design and GD 530, Seminar: Philosophy of Art.

5. Upper division art requirements, totaling 45 hours, are distributed as follows: 12 hours in graphic design core, 21 hours in graphic design selected electives (300-400-500 level) and 12 hours in art electives (300-400-500 level).

Model Program *

FRESHMAN

<table>
<thead>
<tr>
<th>Course</th>
<th>First Semester</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Drawing) 145, Drawing I (C)</td>
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<td>GD 135, Design I (C)</td>
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<td>Art Hist. 121G, Survey of Western Art:</td>
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<td>Paleolithic Through Early Christian (GSC)</td>
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<td>Eng. 101, College English I (GEC)</td>
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<td>GD 139, Design II (C)</td>
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College of Fine Arts/Graphic Design 217
### SOPHOMORE

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<tr>
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<td>SA (Drawing) 240, Life Drawing (C)</td>
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<td>GD 230, Basic Photography (Still) (C)</td>
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<td>GD 236, Drawing for Commercial Art (C)</td>
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<tr>
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<td>GD 234, Layout and Production Techniques (C)</td>
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<td>GD 231, Basic Photography (Motion Picture) (C)</td>
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### SENIOR

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* The following abbreviations are used in the Model Program:
  
  CEC = General education curriculum
  GSC = General studies course
  C = Graphic design core
  GD = Graphic design course

### Lower Division Courses

135. **Design I.** (3). Introduction to the principles of design and practice in various media. A study is made of the two-dimensional surface in relation to the formal elements of space, form, color and consequent structure. F 17 135 1 1009

138. **Color.** (3). A study of the qualities of color in design and art expression. Prerequisite: GD 135. F 17 138 1 1009

139. **Design II.** (3). Introduction to the principles of three-dimensional design. A study of relationships of mass and space using diverse media is conducted. F 17 139 1 1009

230. **Basic Photography (Still).** (3). Introductory course in still photography. Lab fee. Nonmajors may be required to furnish their own cameras. Prerequisites: GD 135 and instructor's consent. F 17 230 1 1009

231. **Basic Photography (Motion Picture).** (3). Introductory course in film production. Lab fee. Nonmajors may be required to furnish their own cameras. Prerequisites: GD 230 and instructor's consent. F 17 231 1 1009
233. Basic Typography. (3). Lettering as related to the study of type and its application in layout and design. Prerequisites: SA (Drawing) 145 and GD 135. F 17 233 1 1009

234. Layout and Production Techniques. (3). Introduction to advertising theory and visual communication. Fundamentals of respective functions of purpose, copy, art, plans and media in advertising. A study is made of studio practices and art production problems. Prerequisite: GD 233. F 17 234 1 1009

236. Drawing for Commercial Art. (3). Directed practice in drawing in various media, with emphasis on its application to commercial art. Prerequisite: graphic design major or instructor’s consent. F 17 236 1 1009

Upper Division Courses

330. Design Media Studio. (3). Advanced study of photography, cinematography or television. Lab fee. Repeatable for credit. Prerequisites: GD 230, 231 and instructor’s consent. F 17 330 1 1009

332. Fashion Illustration I. (3). Development of the fashion figure for use in fashion illustrating. F 17 332 1 1009

333. Fashion Illustration II. (3). Development of the fashion figure. Interpretation of varied textures of furs, fabrics, leathers, etc. is made. Problems in layout peculiar to fashion advertising are included, as is work in media for newspaper and magazine reproduction. Prerequisite: GD 332. F 17 333 1 1009

334. Graphic Design II—Production. (3). Introduction to printing processes: letterpress and offset printing. Prerequisite: GD 335. F 17 334 1 1009

335. Graphic Design I—Theory. (3). Experiments with visual phenomena and their use in the communication of ideas through visual means. Studio practice is coordinated with the discussion of art theory, philosophy and history of design. Prerequisite: GD 234. F 17 335 1 1009

337. Advertising Illustration. (3). Development of skills in pictorial graphics. Their application to the needs of editorial and advertising illustration is studied, as are black and white media. Repeatable for credit. Prerequisite: GD 236. F 17 337 1 1009

339. Exhibition Design. (3). The study of visual, acoustic and kinetic modes of communicating man’s ideas, history and products via public exhibits. A semester project includes the development and construction of an exhibit. Repeatable for credit. Prerequisites: GD 139 and instructor’s consent. F 17 339 1 1009

430. Graphic Design III—Media. (3). Application of design media in the applied arts. Repeatable for credit. Prerequisite: GD 231. F 17 430 1 1009

433. Advanced Fashion Illustration. (3). Fashion drawings of costumed models for newspaper and magazine layouts. Merchandising and fashion elements are analyzed in black and white and color. Consideration is given to reproduction requirements. Repeatable for credit. Prerequisite: GD 333. F 17 433 1 1009

434. Graphic Design Intern. (3). On-the-job internship in an art studio or advertising agency. Instruction time is divided between arranged location, observation and/or apprenticeship and weekly seminar period. Written reports of individual research are required in addition to a portfolio of samples produced as an intern. Repeatable for credit. Prerequisites: interview, portfolio and junior status. F 17 434 2 1009

435. Graphic Design IV—Design Programs. (3). A comprehensive study of the corporate image. The development, coordination and execution of a corporate design program are included. This course emphasizes conceptual aspects of graphic design. Repeatable for credit. Prerequisites: GD 334 and 430. F 17 435 1 1009

437. Advanced Advertising Illustration. (3). Continuation of GD 337. Color media are included. Repeatable for credit. Prerequisite: GD 337. F 17 437 1 1009

438. Color and Design. (3). The psychology and optics of color perception and expression in design. Color theory is applied to film making, exhibition design and advertising. Prerequisites: GD 138 and 335. F 17 438 1 1009

Courses for Graduate/Undergraduate Credit

The graphic design department is no longer accepting new students for graduate study.
530. Seminar: Philosophy of Art. (3). Survey of the field of aesthetics and philosophy of art. A critical examination of ideas is included. Prerequisite: departmental consent. F 17 530 9 1009

730. Seminar in Graphic Design. (3). Supervised study and research. Weekly consultation and reports are required. Repeatable for credit. Prerequisite: departmental consent. F 17 730 9 1009

Courses for Graduate Students Only

830. Graphic Design Media. (3). Application of design media in the applied arts. Repeatable for credit. Prerequisite: departmental consent. F 17 830 1 1009

833. Typography. (3). The study of typography in visual communication and its use in graphic design. Laboratory work is performed in designing, setting, printing and binding an original work. Repeatable for credit. Prerequisite: departmental consent. F 17 833 1 1009

834. Production Techniques. (3). Laboratory problems in planning and executing design work for the various graphic media. A study is made of office practices related to the operation of a studio and the production of art. Repeatable for credit. Prerequisite: departmental consent. F 17 834 1 1009

835. Graphic Design Theory. (3). Experimentation in visual phenomena and their uses in the communication of ideas through visual means. Studio practice is coordinated with discussions on design theory, philosophy and history of design. Repeatable for credit. Prerequisite: departmental consent. F 17 835 1 1009

838-839. Terminal Project—Graphic Design. (3-3). F 17 838 3 1009; F 17 839 3 1009

Studio Arts

CERAMICS

Through their course work, ceramics majors are exposed to their tools: building, throwing, clays and glazes. Students investigate problems of glaze formulation, firing the kiln and characteristics of clays and production.

Requirements. A total of 124 hours is required for the major, as distributed below.

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<th>Hrs.</th>
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<td>Ceramics</td>
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<td>Painting</td>
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<td>Printmaking</td>
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220
Model Program

**FRESHMAN**

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<th>Course</th>
<th>First Semester</th>
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<tr>
<td>SA (Drawing) 145, Drawing</td>
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<tr>
<td>SA (Ceramics) 170, Ceramics I</td>
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<td>Eng. 101, College English I</td>
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<tr>
<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
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<tr>
<td>General education: Art Hist. 121G, 122G or 124</td>
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<tbody>
<tr>
<td>SA (Printmaking) 160 or 262, Printmaking I or II</td>
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<tr>
<td>SA (Sculpture) 180, Sculpture I</td>
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<tr>
<td>Eng. 102, College English II</td>
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<td>General education: Art Hist. 121G, 122G or 124</td>
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**SOPHOMORE**

<table>
<thead>
<tr>
<th>Course</th>
<th>First Semester</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Ceramics) 270, Ceramics II</td>
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<td>SA (Drawing) 240, Life Drawing</td>
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<tr>
<td>SA (Painting) 250 or 251, Oil Painting or Watercolor Painting</td>
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<th>Course</th>
<th>Second Semester</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Ceramics) 270, Ceramics II</td>
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<td>SA (Drawing) 240, Life Drawing</td>
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<tr>
<td>SA (Sculpture) 280, Sculpture II</td>
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**JUNIOR**

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<tr>
<th>Course</th>
<th>First Semester</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Ceramics) 370, Ceramics Studio</td>
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<tr>
<td>SA (Ceramics) 275 or 575, Study of Ceramic Materials I or II</td>
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<td>SA (Drawing) 340, Life Drawing Studio</td>
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<td>Art elective</td>
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<tbody>
<tr>
<td>SA (Ceramics) 276 or 576, Study of Ceramic Glazes I or II</td>
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**SENIOR**

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<th>Hrs.</th>
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<td>Art elective</td>
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<td>Art elective</td>
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<tr>
<td>Art elective</td>
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</table>

**Lower Division Courses**

270. Introduction to Ceramics Studio. (3). Experience in handbuilding, wheel throwing, glazing methods. Lecture periods involve general knowledge of clays, glazes, kilns and historical and contemporary pottery. Repeatable once for credit. F 16 270 1 1009

College of Fine Arts/Studio Arts  221
272. Handbuilding Techniques. (3). Special studio emphasis on handbuilding that involves form and surface techniques. Research of materials used for special surfaces and written evaluation is included. F 16 272 1 1009

275. Study of Ceramic Materials I. (3). Lectures and research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. F 16 275 0 1009

276. Study of Ceramic Glazes I. (3). The study of glaze formulation and the color and crystalline effects of oxides on glazes. Notebook and laboratory work required. F 16 276 1 1009

Upper Division Courses

370. Ceramics Studio. (3). Advanced studio problems involving forming methods. Experience is given in glaze formulation and kiln firing. Lecture periods are held on advanced studies of ceramic materials and historical and contemporary pottery. Repeatable for credit. Prerequisite: SA (Ceramics) 270. F 16 370 1 1009

374. Kiln Methods. (3). The study of kiln design and construction, with research in the area of refractory materials. Reading assignments, notebook and laboratory research are included. F 16 374 1 1009

Courses for Graduate Students Only

870. Special Problems in Ceramics. (3 or 5). Research in advanced problems in ceramics. Repeatable for credit. F 16 870 3 1009

875. Advanced Research of Ceramic Materials. (3). Lectures and advanced research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Notebook and outside lab work are required. F 16 875 4 1009

876. Advanced Study of Ceramic Glazes. (3). The study of glaze formulation and the color and crystalline effects of oxides on base glazes. Notebook, advanced formulation records and laboratory work required. Prerequisite: SA (Ceramic) 875. F 16 876 4 1009

877. Seminar in Ceramics. (3). Supervised study and research. Weekly consultation and reports are required. Repeatable for credit. Prerequisite: instructor's consent. F 16 877 9 1009

878-879. Terminal Project—Ceramics. (3 or 5, 3 or 5). F 16 878 4 1009; F 16 879 4 1009

DRAWING AND PAINTING

The drawing and painting program gives students a thorough preparation in drawing and painting and then allows them to progress
through a structured regimen, which leads to the development of their own personal style. Museums, galleries and traveling shows form the basis of environmental exposure.

Requirements. A total of 124 hours is required for the major, as distributed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Art Curriculum</td>
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<td>Art history electives</td>
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<td>Painting</td>
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<td>Drawing</td>
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<td>Sculpture</td>
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Model Program

### FRESHMAN

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<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Drawing) 145, Drawing I</td>
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<td>SA (Ceramics) 170, Ceramics I</td>
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<td>Eng. 101, College English I</td>
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<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
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### SOPHOMORE

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Painting) 250, Oil Painting</td>
<td>3</td>
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<tr>
<td>SA (Drawing) 240, Life Drawing</td>
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<tr>
<td>SA (Printmaking) 364, Printmaking I</td>
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<td>III—Lithography</td>
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### JUNIOR

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>SA (Painting) 350, Painting Studio</td>
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<tr>
<td>SA (Drawing) 340, Life Drawing Studio</td>
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College of Fine Arts/Studio Arts 223
### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Painting) 550, Advanced Painting Studio</td>
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</tr>
<tr>
<td>SA (Drawing) 545, Advanced Drawing Studio</td>
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### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>SA (Painting) 550, Advanced Painting Studio</td>
<td>3</td>
</tr>
<tr>
<td>SA (Drawing) 545, Advanced Drawing Studio</td>
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<td>Art elective</td>
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<tr>
<td></td>
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</tbody>
</table>

### Drawing

#### Lower Division Courses

145. **Drawing I.** (3). Introduction to the principles of drawing and theory and practice for beginning art students in various drawing media. Work deals in still life, landscape and human figure. Problems are in composition, projects and sketchbooks. F 16 145 1 1002

240. **Life Drawing.** (3). Drawing from life, with emphasis on figure construction. Anatomy sketchbooks and/or portfolios are required. Repeatable once for credit. Prerequisite: SA (Drawing) 145. F 16 240 1 1002

#### Upper Division Courses

340. **Life Drawing Studio.** (3). Emphasis on individual development, figurative observation and interpretation. Repeatable for credit. Prerequisite: two semesters of life drawing. F 16 340 1 1002

345. **Intermediate Drawing.** (3). Drawing projects, nonfigurative. Included are problems of style, suites of related works, and history of drawing techniques and materials. Repeatable once for credit. Prerequisite: two semesters of life drawing. F 16 345 1 1002

### Graduate/Undergraduate Credit

545. **Advanced Drawing Studio.** (3). Drawing with a variety of media. Graphic problems relative to individual technical and aesthetic development are used. Critiques are given. Repeatable for credit. Prerequisite: three semesters of life drawing. F 16 545 1 1002

### Courses for Graduate Students Only

840. **Special Problems in Life Drawing.** (1 or 3). Drawing from life. Sketchbooks and/or portfolio are required. Repeatable for credit. F 16 840 3 1002

845. **Special Problems in Drawing.** (1 or 3). Advanced drawing in various media, with emphasis on independent work and the development of personal expression. Repeatable for credit. F 16 845 3 1002

849. **Seminar in Drawing.** (3). Supervised study and research. Consultation and reports are required. Repeatable for credit. Prerequisite: instructor's consent. F 16 849 9 1002
Painting

Lower Division Courses

250. Oil Painting. (3). An introduction to oil painting, emphasizing studio practices, fundamental principles and techniques. Prerequisite: SA (Drawing) 145. F 16 250 1 1002

251. Watercolor Painting. (3). An introduction to transparent watercolor painting. Sketchbooks and/or portfolio required. Prerequisite: SA (Drawing) 145. F 16 251 1 1002

252. Acrylic Painting. (3). An introduction to acrylic painting on various supports, such as canvas, masonite and paper. Prerequisite: SA (Drawing) 145. F 16 252 1 1002

255. Introduction to Methods and Media of Painting. (3). Survey of painting methods from the 12th century to the 20th. History and nature of materials are examined, including encaustic, tempera, oil, oil-resin, synthetic media, grounds, supports and surface protection. Prerequisite: prior or concurrent enrollment in painting or art history major. F 16 255 0 1002

Upper Division Course

350. Painting Studio. (3). Emphasis on individual development, personal interpretation and creativity. Repeatable for credit. Prerequisites: SA (Painting) 250 and 251 or 252. F 16 350 1 1002

Courses for Graduate Students Only

850. Special Problems in Painting. (3 or 5). Professional and experimental painting with emphasis on the development of maturity, ideas, independent thinking and personal expression. Mediums include oil, watercolor and synthetic media. Repeatable for credit with the consent of the drawing/painting faculty. F 16 850 3 1002

855. Methods and Media of Painting. (3). Painting methods from the 12th century to the 20th. History and nature of materials are studied, including encaustic, tempera, oil, oil-resin, synthetic media, grounds, supports and surface protection. Prerequisite: instructor’s consent. F 16 855 0 1002

857. Seminar in Painting. (3). Supervised study and research. Consultation and reports are required. Repeatable for credit. Prerequisite: instructor’s consent. F 16 857 9 1002

858-859. Terminal Project—Painting. (3 or 5, 3 or 5). F 16 858 4 1002; F 16 859 4 1002

PRINTMAKING

The printmaking program gives students a broad base of experience in printmaking. Students encounter two primary disciplines, intaglio and lithographic techniques. Supplementing these areas are relief, collagraph, serigraph and combined techniques in both black and white and color. Emphasis is placed upon creativity, and students are encouraged to investigate new or traditional methods.

Requirements. A total of 124 hours is required for the major, as distributed below:

College of Fine Arts/Studio Arts 225
### Area

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Art Curriculum</td>
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<td>Painting</td>
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<td>Ceramics</td>
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<td>Sculpture</td>
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<td>General Education Program</td>
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### Model Program

#### FRESHMAN

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>SA (Drawing) 145, Drawing I</td>
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<tr>
<td>SA (Printmaking) 160, Printmaking I</td>
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<td>Eng. 101, College English I</td>
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<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
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#### Second Semester

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<tbody>
<tr>
<td>SA (Printmaking) 262, Printmaking II</td>
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<tr>
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<tr>
<td>Eng. 102, College English II</td>
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#### SOPHOMORE

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<td>SA (Drawing) 240, Life Drawing</td>
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<tr>
<td>SA (Painting) 250, Oil Painting</td>
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#### Second Semester

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<tr>
<td>SA (Printmaking) 265, The Techniques and Materials of Printmaking</td>
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<tr>
<td>SA (Painting) 251 or 252, Watercolor Painting or Acrylic Painting</td>
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#### JUNIOR

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<th>Course</th>
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<tr>
<td>Printmaking elective</td>
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<tr>
<td>SA (Drawing) 340, Life Drawing Studio</td>
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#### Second Semester

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### First Semester

<table>
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<th>Hrs.</th>
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<td>SA (Drawing) 545, Advanced Drawing Studio</td>
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### Courses for Graduate/Undergraduate Credit

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<tr>
<td>SA (Printmaking) 560, Advanced Printmaking Studio</td>
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<tr>
<td>Art elective</td>
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</tbody>
</table>

**Total**: 15

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### Lower Division Courses

**160. Printmaking I.** (3). An introduction to printmaking. Exploratory work is done in intaglio, collagraph, woodcut or relief techniques. F 16 160 1 1002

**262. Printmaking II.** (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: SA (Drawing) 145. F 16 262 1 1002

**265. The Techniques and Materials of Printmaking.** (2). Lecture, assigned reading and reports on tools, materials, methods and origins of basic printmaking techniques, including woodcut, relief, intaglio, lithograph, collagraph and color printing. F 16 265 0 1002

### Upper Division Course

**364. Printmaking III—Lithography.** (3). Introduction to lithography printing from the stone in black and white. The second semester includes color printing in lithography and combined techniques. Repeatable for credit. Prerequisite: SA (Drawing) 145 or SA (Printmaking) 160. F 16 364 1 1002

### Courses for Graduate Students Only

**860. Special Problems in Printmaking—Intaglio.** (3 or 5). Advanced printmaking on an individual basis. Encouragement is given to investigation combined with a craftsman-like approach. Techniques include all intaglio, relief and combined methods, black and white and color. Repeatable for credit. F 16 860 3 1002

**862 & 863. Special Problems in Printmaking—Lithography.** (3 or 5, 3 or 5). Advanced printmaking on an individual basis. Encouragement is given to investigation, combined with a craftsman-like approach. Included are lithography and allied techniques, black and white and color.
color. Repeatable for credit. F 16 862 3 1002 & F 16 863 3 1002

867. Seminar in Printmaking. (3). Supervised study and research in the following art area: printmaking. Weekly consultation and reports are required. Individual areas are not repeatable for credit. Prerequisite: instructor's consent. F 16 867 9 1002

568-569. Terminal Project—Printmaking. (3 or 5, 3 or 5). F 16 868 4 1002; F 16 869 4 1002

SCULPTURE

The sculpture program provides students with a solid grounding in basic techniques and materials and exposes them to the past and present directions in sculpture. A professional attitude is emphasized, with traditional and experimental methods and media being explored.

Requirements. A total of 124 hours is required for the major, as distributed below:

**Area** | **Hrs.**
--- | ---
Art Curriculum | 81
Art history electives | 6
Sculpture | 24
Drawing | 15
Ceramics | 3
Painting | 3
Printmaking | 3
Art electives | 27
General Education Program | 43

Model Program

**FRESHMAN**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA (Drawing) 145, Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>SA (Sculpture) 180, Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>General education: Art Hist. 121G, 122G or 124</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA (Ceramics) 173, Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>SA (Printmaking) 160 or 262, Printmaking I or II</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>General education: Art Hist. 121G, 122G or 124</td>
<td>3</td>
</tr>
<tr>
<td>General education</td>
<td>4</td>
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<tr>
<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

**SOPHOMORE**

**FIRST SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA (Sculpture) 280, Sculpture II</td>
<td>3</td>
</tr>
<tr>
<td>SA (Drawing) 240, Life Drawing</td>
<td>3</td>
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<tr>
<td>Art elective</td>
<td>3</td>
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<tr>
<td>General education</td>
<td>5</td>
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<tr>
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<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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</tbody>
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**SECOND SEMESTER**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA (Sculpture) 380, Sculpture Studio</td>
<td>3</td>
</tr>
<tr>
<td>SA (Drawing) 240, Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>SA (Painting) 250 or 251, Oil Painting or Watercolor Painting</td>
<td>3</td>
</tr>
<tr>
<td>General education</td>
<td>5</td>
</tr>
<tr>
<td>General education</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>
## JUNIOR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA (Sculpture) 380, Sculpture Studio</td>
<td>3</td>
</tr>
<tr>
<td>SA (Drawing) 340, Life Drawing Studio</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td>General education</td>
<td>3</td>
</tr>
<tr>
<td>General education</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sculpture studio</td>
<td>3</td>
</tr>
<tr>
<td>Art history elective</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td>General education</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

## SENIOR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA (Sculpture) 580, Advanced Sculpture Studio</td>
<td>3</td>
</tr>
<tr>
<td>SA (Drawing) 545, Advanced Drawing Studio</td>
<td>3</td>
</tr>
<tr>
<td>Art history elective</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sculpture studio</td>
<td>3</td>
</tr>
<tr>
<td>Sculpture elective</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td>Art elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Lower Division Courses

180. Sculpture I. (3). An introduction to basic sculpture techniques and materials. Direct work in plaster, clay, wood and metal and casting in plaster and concrete are done. F 16 180 1 1002

280. Sculpture II. (3). An introduction to sculptural techniques in welded steel, assemblage, kinetics and optics. Prerequisite: SA (Sculpture) 180. F 16 280 1 1002

### Upper Division Courses

380. Sculpture Studio. (3). Special emphasis on the main approaches to sculpture. Stress is placed on the form, concept and construction of sculpture. Carving techniques in wood, stone and/or plastic are included, as are construction and assemblage techniques selected from wood, plastic, metal (welded, brazed, riveted, etc.) and/or combined materials. Repeatable once for credit. Prerequisite: SA (Sculpture) 280. F 16 380 1 1002

381. Sculpture Studio. (3). Casting techniques for bronze and aluminum sculpture. Plaster investment, CO₂ set sand, foam vaporization and vitrified shell molds are used to develop individual and unique approaches to cast sculpture. Prerequisite: SA (Sculpture) 280. F 16 381 1 1002

### Course for Graduate/Undergraduate Credit

580. Advanced Sculpture Studio. (3). Sculpture in any medium, with an emphasis on individual development and creativity. Repeatable for credit. Prerequisite: SA (Sculpture) 380. F 16 580 1 1002

### Courses for Graduate Students Only

880. Special Problems in Sculpture. (3 or 5). Advanced sculpture, with emphasis on experimentation and high quality work on an individual basis. Special projects in casting, architectural sculpture, mixed media or new materials and techniques are stressed. Repeatable for credit. F 16 880 3 1002

887. Seminar in Sculpture. (3). Supervised study and research. Consultation and reports are required. Individual areas are not repeatable for credit. Prerequisite: instructor's consent. F 16 887 9 1002

888-889. Terminal Project—Sculpture. (3 or 5, 3 or 5). F 16 888 4 1002; F 16 889 4 1002

*College of Fine Arts/Studio Arts 229*
DIVISION OF MUSIC

The Division of Music, which includes the Department of Music Education, Department of Music Performance and Department of Musicology-Composition, offers courses, programs and curricula designed to train and educate serious music students who are planning careers in the music profession. In addition, the division's offerings allow students in other colleges to gain an understanding of music as a humanistic study. Recitals by students, faculty and guests augment the overall community programs in the fine arts.

The Division of Music is an accredited member of the National Association of Schools of Music, and its requirements for entrance and graduation are in accordance with the association's published regulations.

Two undergraduate degrees are offered by the Division of Music: the Bachelor of Music Education (BME) and the Bachelor of Music (BM) in music performance and in theory-composition.

Students receiving the BME must meet the state requirements for the secondary three-year certificate and three-year elementary certificate. Students may select from four options within 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.

4. Piano pedagogy emphasis, offered to satisfy the needs of students whose chief performing medium is piano and who plan to enter the field of vocal, piano or general music teaching in the public schools and studio piano teaching in the community.

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.

Requirements

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 repertoire cards, on which progress is recorded, are maintained for each student.

All nonpiano music majors must pass a piano proficiency examination. Entering students majoring in music, but not in piano, whose background indicates that they are competent in the area of piano may pass the requirement by special examination. If students pass the examination, they may elect other interest areas or additional private study in piano courses designed for the nonpiano major. Students who have not satisfied all piano proficiency requirements must enroll in class or private piano until they meet those requirements. Transfer students who submit proof of the completion of a comparable piano proficiency examination, by official transcript or letter from their former dean, are exempt from this requirement.

All proficiency examinations must be passed before students are allowed to student teach.

STUDENT TEACHING

Admission into the student teaching semester requires a minimum cumulative grade point average of 2.25; a minimum grade point average of 2.50 in music courses; senior standing (90 hours—200 credit points); a grade of C or better in English Composition (Eng. 101, or its equivalent); a grade of C or better in Speech 111 or 112; completion of prerequisites in educational psychology, foundations of education and music education methods; successful completion of the piano proficiency exam; successful completion of a physical examination; and a recommendation by the music education department.

Transfer students must satisfy education requirements for prerequisites not taken at Wichita State.

All students must have an application on file with the Admissions Committee of the College of Education and the Department of Music Education and receive their approval. Students must file applications with the chairperson of the music education department by midterm of the spring semester prior to the academic year in which they plan to student teach.

APPLIED MUSIC REGULATIONS

Instruction is given in applied media to develop musicianship, performance skills and reading knowledge of music literature. Specific requirements for each level are set by the individual applied areas.

For 1 semester hour of credit, students receive a ½ hour lesson each week, with a minimum of 5 hours of practice required per week.

For 2 semester hours of credit, students receive either (1) a ½ hour private lesson each week and a 1 hour class each week or (2) a 1 hour lesson per week, or other equivalent arrangements at the option of the

College of Fine Arts/Division of Music 231
instructor. Students are expected to practice a minimum of 10 hours each week.

For 4 semester hours of credit, students receive two ½ hour lessons and a 1 hour class lesson each week, or other equivalent arrangements at the option of the instructor. Students are expected to practice a minimum of 20 hours per week.

Students receive academic credit for applied music instruction only when they take instruction on the University campus offered by approved music faculty. Students wishing to drop an applied lesson registration must inform the instructor in person and secure his/her signature on the drop form before approval may be given by the college office.

Applied music students may enroll in the following classifications: freshmen and sophomores, AM 231 and 232; juniors and seniors, AM 431, 432 and 434; and graduates, AM 731, 732 and 734. These applied music courses are repeatable for credit.

Prior to graduation all music majors must achieve a minimum degree of performance proficiency, which is determined by the faculty according to each student’s degree program. In addition, students may be required to pass an examination on materials in their chief performing medium.

**RECITALS**

All music majors are required to enroll in five semesters of recital. Students fulfill four of these semesters by enrolling in Recital, Mus. Perf. 050, and attending a minimum of 14 specified recitals and concerts sponsored by the Division of Music. The students’ performance of the senior recital fulfills their fifth semester recital requirement; they must be enrolled in Recital (Mus. Perf. 050 for BME and BM theory-composition majors or Mus. Perf. 400 for BM performance majors) during that semester.

All students are required to declare a chief performance medium, and in this major area they are required to present a public or jury recital prior to graduation. The decision as to whether the performance will be jury or public is made by an examining committee. Students present to the examining committee a projected senior recital program, and the examining committee determines: (1) the suitability of the projected program, (2) the capability of the student to perform the program publicly and (3) whether or not the program should be performed before a faculty jury.

For the senior recital, theory-composition majors must present a selection of compositions representing large and small forms, lasting a minimum of 20 minutes total. 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 determines acceptability of the program. The compositions are performed publicly. In addition, students may elect to present a recital in
their chief performing medium, with the permission of their applied music instructor, once they have achieved junior-level proficiency in their instrument.

No graduating senior may prepare or perform the graduation recital without the guidance of a Division of Music faculty member. In the event the required applied music credit hours have been earned prior to the recital presentation, students are expected to elect the applied major during the preparation for and the performance of the recital.

Graduate Music Studies

The Graduate School offers programs leading to a Master of Music Education (MME), with emphases in elementary music, instrumental music, choral music and music in special education, and a Master of Music (MM), with emphases in history-literature, performance, piano pedagogy and theory-composition. For information concerning requirements for entrance and curricula, consult the Wichita State University Graduate Bulletin.

Graduation Requirements

BACHELOR OF MUSIC REQUIREMENTS

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 departments in the Division of Music.

Bachelor of Music in Theory-Composition

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>20</td>
</tr>
<tr>
<td>Chief performing medium (piano, organ)</td>
<td>16</td>
</tr>
<tr>
<td>Other performing media</td>
<td>4</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>Chief performing medium (nonkeyboard)</td>
<td>8</td>
</tr>
<tr>
<td>Keyboard performing medium</td>
<td>8</td>
</tr>
<tr>
<td>Other performing media</td>
<td>4</td>
</tr>
<tr>
<td>Theory and Composition</td>
<td>40</td>
</tr>
<tr>
<td>Mus.-Comp. 127-128, 129-130, 227-228, 229-230, 259-260, 523, 559, 560, 561, 641, 659, 660, 661, 671 and 672</td>
<td></td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>10</td>
</tr>
<tr>
<td>Mus.-Comp. 113 and 8 hours from Mus.-Comp. 331, 332, 333 or other approved music literature courses (6 hours must be taken in Mus.-Comp. 331, 332 or 333)</td>
<td></td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 217 or 218, 651 or 691</td>
<td></td>
</tr>
<tr>
<td>Ensembles °</td>
<td>10</td>
</tr>
<tr>
<td>Electives (music or nonmusic courses)</td>
<td>8</td>
</tr>
<tr>
<td>Recital Attendance (four semesters plus senior recital)</td>
<td></td>
</tr>
</tbody>
</table>

Theory-composition majors are required to present for public performance a
selection of their compositions representing large and small forms, totaling a minimum of 20 minutes. *Students must submit completed scores representing a majority of the program to an examining committee the semester prior to that of the proposed recital; the examining committee shall determine the acceptability of the program.* The composition or compositions must be submitted in a minimum of two ink copies. These ink copies must represent a high quality of music manuscript and must be completed in the candidate's own hand. In addition, students may elect to present a recital in their chief performing medium with the permission of their applied music instructor and achievement of junior proficiency in that instrument.

**Bachelor of Music in Performance—Instrumental Major**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>28</td>
</tr>
<tr>
<td>Chief performing medium</td>
<td>24</td>
</tr>
<tr>
<td>Second performing medium (four semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Theory</td>
<td>22</td>
</tr>
<tr>
<td>Mus.-Comp. 127-128, 129-130, 227-229, 228-230, 523, 561 or 661, 641</td>
<td></td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>10</td>
</tr>
<tr>
<td>Mus.-Comp. 113 and 8 hours from Mus.-Comp. 331, 332, 333 or other approved music literature courses (6 hours must be taken in Mus.-Comp. 331, 332 or 333)</td>
<td></td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 217 or 218 and 651 or 691</td>
<td></td>
</tr>
<tr>
<td>Ensembles</td>
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</tr>
<tr>
<td>Electives (either music or nonmusic courses)</td>
<td>11</td>
</tr>
<tr>
<td>Senior Recital (Mus. Perf. 400)</td>
<td>1</td>
</tr>
<tr>
<td>Recital attendance (specified number of recitals per semester for four semesters, Mus. Perf. 050)</td>
<td></td>
</tr>
</tbody>
</table>

* See degree checksheet for specified ensembles.

**Bachelor of Music in Performance—Keyboard Major**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>28-32</td>
</tr>
<tr>
<td>Chief performing medium</td>
<td>24</td>
</tr>
<tr>
<td>Second performing medium (four semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 233 P, Applied Piano Concerto (For piano performance majors) (2 semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Piano Accompanying Majors: Piano</td>
<td>16</td>
</tr>
<tr>
<td>Applied accompanying</td>
<td>12</td>
</tr>
<tr>
<td>(Mus. Perf. 223, 224, 423, 424)</td>
<td></td>
</tr>
<tr>
<td>Theory</td>
<td>22-26</td>
</tr>
<tr>
<td>Mus.-Comp. 127-128, 129-130, 227-229, 228-230, 523, 561 or 661, 641 and for Piano Accompanying Majors Only, Mus. Perf. 121, 122, 221, 222</td>
<td></td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>10</td>
</tr>
<tr>
<td>Mus.-Comp. 113 and 8 hours from Mus.-Comp. 331, 332, 333 or other approved music literature courses (6 hours must be taken in Mus.-Comp. 331, 332 or 333)</td>
<td></td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. Perf. 217 or 218 and 651 or 691</td>
<td></td>
</tr>
</tbody>
</table>
Ensembles
Organ Majors ............................................. 10
Piano Majors ............................................. 8
(Six semesters of accompanying required for all Bachelor of Music Piano majors. Piano scholarship recipients are required to enroll in accompanying each semester they hold a scholarship.)
Organ Majors (Electives) ................................. 11
(Must include Mus.-Comp. 597-598)

Piano Majors
Performance Majors: Mus.-Perf. 107-407, Piano Repertoire .... 6
Mus.-Perf. 580, Piano Pedagogy or Mus.-Perf. 581, Piano Teaching Materials ........................................ 2
Mus.-Comp. 582 and 583, Piano Literature ...................... 4
Pedagogy Majors: Mus.-Perf. 107-407, Piano Repertoire ....... 6
Mus.-Perf. 580, Piano Pedagogy ................................ 2
Mus.-Perf. 581, Piano Teaching Materials ....................... 2
Mus.-Comp. 582 and 583, Piano Literature ...................... 4
Mus.-Perf. 690, Special Topics ................................ 4
Accompanying Majors: Mus.-Perf. 107-407, Piano Repertoire .. 4
Mus.-Perf. 580, Piano Pedagogy or Mus.-Perf. 581, Piano Teaching Materials ........................................ 2
Mus.-Comp. 626, Voice Literature ................................ 3
Mus.-Comp. 685, String Literature ................................ 2
Recital—Mus.-Perf. 050, Recital Attendance (specified number of recitals per semester for four semesters)
Mus.-Perf. 300, Junior Recital (for Piano Performance Majors and Accompanying Majors) ......................... 1
Mus.-Perf. 400, Senior Recital ................................ 1
Mus.-Perf. 450 and 451, Accompanying Recital, (for piano accompanying majors) ......................................... 2
Piano Proficiency Exam

Bachelor of Music in Performance—Vocal Major

Area
Foreign Languages (10 hours in each of two of the three languages below) ........................................ 20
Fr. 111-112
Ger. 111-112
Ital. 111-112
Students with 2 units of a foreign language from high school may continue this language for elective credit but is still required to take 10 hours in each of two of the three languages listed above
Applied Music ............................................. 26
Voice ..................................................... 24
Piano (two semesters) ..................................... 2
Study in another instrument may be substituted if student meets piano proficiency level
Theory ..................................................... 18
Mus.-Comp. 127-128, 129-130, 227-228, 229-230 and 523
History and Literature of Music ............................. 10
Mus.-Comp. 113 and 8 hours from 331, 332, 333 or other approved music literature courses (6 hours must be taken in Mus.-Comp. 331, 332 or 333). These courses count as humanities
Conducting .............................................. 2
Mus. Perf. 218

College of Fine Arts/Division of Music  235
Voice Pedagogy and Repertoire .................................................. 5
Mus. Perf. 625 and Mus.-Comp. 626
Ensembles (see degree check sheets for specified ensembles) ......... 10
Electives (in upper division theory, conducting, choral materials or
music theater directing) .......................................................... 4
Senior Recital (Mus. Perf. 400) .................................................. 1
Recital attendance (specified number of recitals per semester for
four semesters)

BACHELOR OF MUSIC EDUCATION REQUIREMENTS

The following program fulfills both the University requirements for
graduation and the Kansas certification requirement and must be taken
by all Bachelor of Music Education (BME) candidates. In completing
the BME program, the student must meet the general education pro­
gram requirements of the University, given in the Academic Informa­
tion—Requirements for Graduation section of the Catalog.

General Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics and Natural Sciences</td>
<td>12</td>
</tr>
<tr>
<td>Oral and Written Communication, Literature and Foreign Languages</td>
<td>12</td>
</tr>
<tr>
<td>Required:</td>
<td></td>
</tr>
<tr>
<td>Eng. 101 and 102, or equivalent</td>
<td></td>
</tr>
<tr>
<td>Speech 111 or 112</td>
<td></td>
</tr>
<tr>
<td>History, Social and Behavioral Sciences</td>
<td>12</td>
</tr>
<tr>
<td>Required:</td>
<td></td>
</tr>
<tr>
<td>Psych. 111</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>14</td>
</tr>
<tr>
<td>Required:</td>
<td></td>
</tr>
</tbody>
</table>
| Mus.-Comp. 113 and 6 hours from Mus.-Comp. 331, 332 or
  333. Any course in humanities, social sciences, mathematics or
  natural sciences. | |
| Education | 18 |
| IS 233 or 333 and 433 | |
| IS 232, and 234 and 428 | |
| IS 451 * | |
| IS 469 * | |

*These courses must be taken during the student teaching semester.

Additional Courses Required for Instrumental Emphasis

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>14-16</td>
</tr>
<tr>
<td>Chief Performing Medium</td>
<td>12-14</td>
</tr>
<tr>
<td>Second performing medium (voice)</td>
<td>2</td>
</tr>
<tr>
<td>Third performing medium (piano)</td>
<td>2</td>
</tr>
<tr>
<td>Theory</td>
<td>20</td>
</tr>
<tr>
<td>Mus.-Comp. 127-128, 129-130, 227-228, 229-230, 561, 641 or 645</td>
<td></td>
</tr>
</tbody>
</table>
Conducting .................................................. 4
Mus. Perf. 217 or 218 and 651 or 691
Ensembles (see degree checksheets for specified ensembles) .......... 10
Piano majors .................................................. 8
Keyboard majors following the instrumental emphasis program are required to take a minimum of 4 hours of instrumental ensembles and 2 hours in piano accompaniment. The ensemble requirement for BME piano majors (secondary or elementary emphasis) is 8 hours, and 4 hours of piano repertoire (Mus. Perf. 107-407) are also required.

Recital Attendance (four semesters plus senior recital)

Music Education .............................................. 13
Elementary instrumental emphasis (field-based curriculum) .......... 7
Mus. Ed. 202, 302 and 402 *

or

Secondary instrumental emphasis .................................. 7
Mus. Ed. 204, 304 and 404 *
Mus. Ed. 235, 236, 237, 238, 239 and 240 .................... 6

Additional Courses Required for Vocal Emphasis

Area Hrs.
Applied Music ................................................. 16
Chief performing medium ...................................... 14
Second performing medium .................................... 2
  Keyboard majors must elect 2 hours of voice—one semester of applied voice, or Mus. Ed. 341, and one semester of Mus. Ed. 342—and complete the keyboard proficiency examination.
Theory ....................................................... 20
Mus.-Comp. 127-128, 129-130, 227-228, 229-230, 661, 641 or 645
Conducting ................................................... 4
Mus. Perf. 217 or 218 and 651 or 691
Ensembles (see degree checksheets for specified ensembles) .......... 10
Piano Majors .................................................. 8
  Keyboard majors—required to enroll for 4 hours of vocal ensemble; 2 of the remaining hours must be in piano accompaniment.
Music Electives (may not be in applied music)—Mus. Ed. 341 or 342 counts .................................................. 6
  Piano majors in vocal emphasis program must elect Mus. Perf. 581 and 4 hours of piano repertoire (Mus. Perf. 107-407)
Recital Attendance (four semesters plus senior recital)
Music Education ............................................. 7
  Elementary vocal emphasis—Mus. Ed. 201, 301, 401 *
  Secondary emphasis—Mus. Ed. 203, 303, 403 *
  Piano pedagogy majors—Mus. Comp. 580, Mus. Perf. 690 (special topics—4 hours)

* These courses must be taken during the student teaching semester.

BACHELOR OF MUSIC EDUCATION—
SPECIAL MUSIC EDUCATION (Vocal or Instrumental Emphasis)

The following courses and areas are required for the Bachelor of Music Education (BME) in special music education. In completing the BME program in special education, the student must meet the General
Education Program requirements given in the Academic Information—Requirements for Graduation section of the Catalog.

**General Requirements**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics and Natural Sciences</td>
<td>12</td>
</tr>
<tr>
<td>Special music education majors must take Logo. 214 to fulfill 3 hours in this area.</td>
<td></td>
</tr>
<tr>
<td>Oral and Written Communication, Literature and Foreign Languages</td>
<td>12</td>
</tr>
<tr>
<td>Required:</td>
<td></td>
</tr>
<tr>
<td>Eng. 101 and 102, or equivalent</td>
<td></td>
</tr>
<tr>
<td>Speech 111 or 112</td>
<td></td>
</tr>
<tr>
<td>History, Social Sciences and Behavioral Sciences</td>
<td>12</td>
</tr>
<tr>
<td>Required:</td>
<td></td>
</tr>
<tr>
<td>Psych. 111</td>
<td></td>
</tr>
<tr>
<td>It is recommended that special music education majors take Psych. 361 or 375 to fulfill 3 hours in this area.</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>17</td>
</tr>
<tr>
<td>Required:</td>
<td></td>
</tr>
<tr>
<td>Mus.-Comp. 113 and 6 hours from 331, 332 or 333 and Logo. 111</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>18</td>
</tr>
<tr>
<td>IS 233 or 333 and 433</td>
<td></td>
</tr>
<tr>
<td>IS 232, 234 and 428</td>
<td></td>
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<tr>
<td>IS 451 °</td>
<td></td>
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<tr>
<td>IS 469 °</td>
<td></td>
</tr>
</tbody>
</table>

**Music Requirements**

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>12-16</td>
</tr>
<tr>
<td>Chief Performing Medium</td>
<td>8-12</td>
</tr>
<tr>
<td>Second performing medium</td>
<td>2</td>
</tr>
<tr>
<td>Third performing medium (elective)—guitar recommended</td>
<td>2</td>
</tr>
<tr>
<td>(All special music education majors must take Mus. Ed. 341 and 342.)</td>
<td></td>
</tr>
<tr>
<td>The above must include completion of the keyboard proficiency examination.</td>
<td></td>
</tr>
<tr>
<td>Theory</td>
<td>20</td>
</tr>
<tr>
<td>Mus.-Comp. 127-128, 129-130, 227-228, 229-230, 561 or 661, 641 or 645</td>
<td></td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus.-Perf. 217 or 218 and 651 or 691</td>
<td></td>
</tr>
<tr>
<td>Music Electives for Vocal Majors (may not be in applied music)—Mus. Ed. 341 and 342 count</td>
<td>6</td>
</tr>
<tr>
<td>Required for piano majors</td>
<td></td>
</tr>
<tr>
<td>4 hours of piano repertoire (Mus.-Perf. 107-407) and 2 hours of Mus. Perf. 581 are required for piano majors.</td>
<td></td>
</tr>
<tr>
<td>Recital Attendance (four semesters plus senior recital)</td>
<td>10</td>
</tr>
<tr>
<td>Ensembles (see degree checksheets for specified ensembles)</td>
<td>8</td>
</tr>
<tr>
<td>Piano majors</td>
<td></td>
</tr>
<tr>
<td>Keyboard majors—required to enroll for 4 hours of vocal ensembles and 2 hours in piano accompaniment.</td>
<td></td>
</tr>
<tr>
<td>Music Education</td>
<td></td>
</tr>
<tr>
<td>Elementary vocal emphasis</td>
<td>7</td>
</tr>
<tr>
<td>Mus. Ed. 201, 309, 401 °</td>
<td></td>
</tr>
</tbody>
</table>
Music Education

Lower Division Courses

201. Fundamentals of Vocal Music for Elementary School. (3). The teaching of music in the elementary school, consideration of objectives and examination of materials. Designed for students primarily interested in teaching music in elementary schools, the course includes observation in public schools. Prerequisite: music education major or instructor's consent. F 11 201 0 0832
202. Fundamentals of Instrumental Music for Elementary School. (3). An introductory course with primary emphasis placed upon a general examination of the instrumental music program in the elementary school. Coverage includes a study of current trends and changing concepts in music education as well as an investigation of the activities, materials and organizational considerations related to the teaching of elementary instrumental music. The course provides the opportunity to teach elementary instrumental students on a limited basis in a laboratory school setting. Prerequisite: music education major or instructor's consent. F 11 202 0 0832

203. Fundamentals of Vocal Music for Secondary Schools. (3). The teaching of music in the secondary school, consideration of objectives and examination of materials. Designed for students primarily interested in teaching music in secondary schools, the course includes observation in public schools. Prerequisite: music education major or instructor's consent. F 11 203 0 0832

204. Fundamentals of Instrumental Music for Secondary Schools. (3). Techniques and materials focused on teaching instrumental music in junior and senior high schools. Emphasis on instrumental organization and administration, pedagogical practices, laboratory experiences, guiding student behavior, evaluation and professional responsibilities. For students primarily interested in teaching instrumental music in the secondary schools. Prerequisite: music education major or instructor's consent. F 11 204 0 0832

235. Methods of Teaching Orchestral Instruments (Violin and Viola). (1). Procedures and materials for class and private teaching. Performance and fundamentals in first position and theory and reading of positions two through five are included. Band and orchestra laboratory is included. F 11 235 0 0832

236. Methods of Teaching Orchestral Instruments (Cello and String Bass). (1). Procedures and materials for class and private teaching. Fundamental techniques are applied. Knowledge of more difficult positions and special techniques are included. Band and orchestra laboratory is included. F 11 236 0 0832

237. Methods of Teaching Band and Orchestral Instruments (Clarinet and Saxophone). (1). Designed to prepare the prospective instrumental music instructor to effectively teach clarinet and saxophone in the public school setting. Included are discussions of teaching techniques, identification of problems peculiar to each instrument, care and minor repair, instructional materials, reed selection and adjustment, instrument brands, and the development of sufficient playing skills. Two class periods per week, consisting of one group and one private meeting. (Enrollment is limited.) F 11 237 0 0832

238. Methods of Teaching Band and Orchestral Instruments (Flute and Double Reeds). (1). Designed to prepare the prospective instrumental music instructor to effectively teach flute and double reeds in the public school setting. Included are discussions of teaching techniques, identification of problems peculiar to each instrument, care of instrument, instructional materials, instrument brands and the development of sufficient playing skills. Two class periods per week, consisting of one group and one private meeting. (Enrollment is limited.) F 11 238 0 0832

239. Methods of Teaching Band and Orchestral Instruments (Brass). (1). Procedures and materials for class and private teaching of all brass instruments, emphasizing tone qualities, differences in embouchure and necessary techniques for performance. F 11 239 0 0832

240. Methods of Teaching Band and Orchestral Instruments (Percussion). (1). Procedures and materials for class and private instruction. Application of snare drum fundamentals and a study of basic techniques for all percussion instruments are included. F 11 240 0 0832

Upper Division Courses

301. Survey of Vocal Music for Secondary School. (3). An overview of activities in secondary vocal and general music programs. Included are a study of objectives for secondary classes and consideration of materials and methods. The course is for students primarily interested in teaching music in the elementary schools. Prerequisite: Mus. Ed. 201. F 11 301 0 0832

302. Survey of Secondary School Music. (3). Primarily concerned with the organization, methods, activities and materials involved in the teaching of instrumental music in the secondary schools. Also included is an examination of classroom vocal teaching techniques and an opportunity for elementary instrumental music education majors to teach junior high school instrumental students in a laboratory school setting. Prerequisite: Mus. Ed. 202. F 11 302 0 0832
303. Survey of Vocal Music for Elementary Schools. (3). An overview of activities in the elementary general music program. Included are a study of objectives for elementary classes and consideration of materials and methods. The course is for students primarily interested in teaching music in the secondary schools. Prerequisite: Mus. Ed. 203. F 11 303 0 0832

304. Survey of Elementary School Music. (3). A survey of activities in the elementary school, including consideration of the general music program and instrumental instruction. The course is for students primarily interested in teaching instrumental music in the secondary schools. Prerequisite: Mus. Ed. 204. F 11 304 0 0832

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. Included are: musical settings (self-contained and mainstreamed) in regular and alternative schools and classes, identification, objectives, appropriate activities, materials, and planning and implementation techniques. Also included are observation, demonstration-participation experiences and/or media presentations. Prerequisites: Mus. Ed. 201 or 202, 203 or 204, with instructor's consent. F 11 309 0 0832

341. Survey of Singing Techniques and Literature. (1). A study of basic techniques of singing and an examination of literature for the solo voice. Recommended for instrumental music education majors and keyboard majors on the vocal program as an alternate to 1 hour of applied voice. Required for special music education majors. F 11 341 0 0832

342. Survey of Choral Techniques and Literature. (1). A study of basic techniques of ensembles and examination of literature for large and small ensembles. Required for instrumental, keyboard and special music education majors. Prerequisite: 1 hour of applied voice or Mus. Ed. 341 and Mus. Perf. 217 or 218. F 11 342 0 0832

351. Music Fundamentals for the Classroom Teacher. (3). For students planning to teach in the elementary school classroom. Basic fundamentals of music are included, with emphasis upon development of student's music ability in singing, playing the piano and classroom instruments. F 11 351 0 0832

352. Music Methods for the Classroom Teacher. (3). For the elementary classroom teacher. The development of children's musical growth through singing, listening, rhythmic and creative activities is emphasized. Prerequisite: Mus. Ed. 351 or instructor's consent. F 11 352 0 0832

401. Advanced Techniques of Vocal Music for Elementary School. (1-2). Consideration of special problems related to preparation for student teaching: development of lesson plans, examination of materials and consideration of activities appropriate at each grade level. Included are audiovisual instruction and materials. Prerequisites: Mus. Ed. 201 and 301. To be taken during student teaching semester. F 11 401 0 0832

402. Advanced Techniques of Elementary School Music. (1-2). Emphasis on special problems related to preparation for student teaching: consideration of the instrumental and the general music programs at the elementary level. Included are audiovisual instruction and materials. Prerequisites: Mus. Ed. 202 and 302. To be taken during student teaching semester. F 11 402 0 0832

403. Advanced Techniques of Vocal Music for Secondary Schools. (1-2). Consideration of special problems related to preparation for student teaching: development of plans, examination of materials and consideration of activities appropriate in junior and senior high school music classes. Included are audiovisual instruction and materials. Prerequisites: Mus. Ed. 203 and 303. To be taken during student teaching semester. F 11 403 0 0832

404. Advanced Techniques of Secondary School Music. (1-2). Consideration of special problems related to preparation for student teaching and of instrumental and general music programs at the secondary level. Included are audiovisual instruction and materials. Prerequisites: Mus. Ed. 204 and 304. To be taken during student teaching semester. F 11 404 0 0832

Courses For Graduate/Undergraduate Credit

501. Music in Recreation. (2). A survey of community facilities where music is, or can be, used in a recreational setting, with field trips, followed by discussion and active planning of appropriate programs for varying types of institutional settings. Participation in community facilities is requisite to the course. F 11 501 0 0832

606. Music Methods for Early Childhood Education. (3). Methods and materials for
teaching music in the preschool and kindergarten classroom. Included are 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. F 11 606 0 0832

610. Music Theater for the Public School Teacher. (2). Cross-listed as Speech 610. An interdisciplinary course (speech-music) to teach students how to produce a musical in the public schools. Includes selection of musical, design elements (sets, costumes, lighting) and rehearsal techniques. Designed to meet the needs of prospective or current public school teachers (speech, music, English) who produce musical theater. Corequisite: concurrent enrollment in Speech 610. F 11 610 0 0832

611. Music for Special Education. (3). Open to any upper division or graduate student and designed for the potential practicing music teacher, classroom teacher or special education teacher. Identification of dysfunctioning children and their problems and current theory and practices in special music education are included. This course satisfies the requirement, effective August 1, 1980, that applicants for renewal of secondary and/or elementary certificates shall present a two (2) semester hour survey course, or equivalent content from other courses, in the subject area of exceptional children. This applies to recertifying music teachers only. F 11 611 0 0832

632. Teaching of Music Literature. (2). Designed for the teacher preparing to teach music literature or appreciation. Included are aesthetic principles in music listening related to the other fine arts and their application to various levels of teaching. F 11 632 0 0832

684. String Teaching Seminar. (2). Historical development of string instrument teaching. Problems involving traditional and recent techniques are studied, as is private study versus class study. School class methods, studio methods, etc. are explored. F 11 684 0 0832

690. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent. F 11 690 2 0832

706. Comparative Arts for Teachers. (3). Emphasis on the related arts of music, visual art and literature from two approaches: an approach that shows the elements the arts have in common, with an emphasis on creativity, and an approach that examines the relationships of the three areas according to basic philosophies. Attention is given to materials and activities suitable for use in the classroom at various levels. F 11 706 0 0832

737. Survey of Woodwind Techniques. (2). Special problems and techniques in the teaching of woodwind instruments. Current materials are surveyed. Prerequisites: Mus. Ed. 237 and 238 or equivalent. F 11 737 0 0832

739. Survey of Brass Techniques. (2). Special problems and techniques in the teaching of brass instruments. Current materials are surveyed. Prerequisite: Mus. Ed. 239 or equivalent. F 11 739 0 0832

740. Survey of Percussion Techniques. (2). Special problems and techniques in the teaching of percussion instruments. Current materials are surveyed. Prerequisite: Mus. Ed. 240 or equivalent. F 11 740 0 0832

750. Music Education Workshop. (1-4). Repeatable for credit. F 11 750 0 0832

772. Contemporary Musical Thought in Music Education. (2). A consideration of imaginative and effective techniques of presenting contemporary musical concepts to all age levels in public school music. Prerequisites: Mus.-Comp. 523 and instructor's consent. F 11 772 0 0832

784. Instrumental Music in the Elementary and Junior High School. (2). An examination of recent developments in instrumental music education and their implications for methods of teaching. F 11 784 0 0832

785. Instrumental Music Organization and Administration. (2). Problems of developing secondary school instrumental music programs. F 11 785 0 0832

786. Charting and Scoring for Marching Band. (2). Applied techniques in arranging or adapting music and planning maneuvers. F 11 786 0 0832

Courses for Graduate Students Only

821. Elementary Music Supervision. (3). Trends in elementary music education; evaluation of various materials and techniques; and special projects in planning and executing a modern program of music supervision. Prerequisite: Mus. Ed. 831 or instructor's consent. F 11 821 0 0832
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>822</td>
<td>Advanced Techniques in Special Music Education. (3)</td>
<td></td>
<td>A course for the music education special emphasis. MME candidate only. Research literature and trends in special music education are studied. An evaluation of materials and techniques and special projects exploring the development of musical understandings in the dysfunctioning child are included. Prerequisite: Mus. Ed. 401. F 11 822 0 0832</td>
</tr>
<tr>
<td>823</td>
<td>Special Music Education, Practicum. (3)</td>
<td></td>
<td>For the music education special music emphasis MME candidate only. Supervised teaching is done in special education classrooms. A companion course to Mus. Ed. 822, this course gives the special music education emphasis MME candidate experience in teaching in special education classrooms. Prerequisite: Mus. Ed. 822 or concurrent enrollment. F 11 823 2 0832</td>
</tr>
<tr>
<td>831</td>
<td>Developing the Child's Musical Understanding. (3)</td>
<td></td>
<td>Definition of understandings necessary for the attainment of musical awareness in the child. The exploration of classroom experiences is directed toward the successful development of understanding through the application of basic learning principles. Prerequisite: Mus. Ed. 401. F 11 831 0 0832</td>
</tr>
<tr>
<td>832</td>
<td>Music in the Junior High School. (3)</td>
<td></td>
<td>Includes administrative structures, the curriculum, adolescent development, teaching as behavior and competencies needed for successful teaching. F 11 832 0 0832</td>
</tr>
<tr>
<td>841</td>
<td>Special Project in Music. (1-3)</td>
<td></td>
<td>Individually supervised study or research, with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 11 841 4 0832</td>
</tr>
<tr>
<td>842</td>
<td>Special Project in Music. (1-3)</td>
<td></td>
<td>Individually supervised study or research, with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 11 842 4 0832</td>
</tr>
<tr>
<td>845</td>
<td>Seminar in Instrumental Music Education Materials. (2)</td>
<td></td>
<td>Critical analysis of materials and literature for band, orchestra and small ensembles. Current bibliography is used. Repeatable for credit. F 11 845 9 0832</td>
</tr>
<tr>
<td>851</td>
<td>Psychology of Music. (2)</td>
<td></td>
<td>Adapted to the viewpoint of the music educator. Emphasis is placed on the physics of sound, psychology of performance and teaching. Aesthetic principles of listening are included. F 11 851 0 0832</td>
</tr>
<tr>
<td>852</td>
<td>Introduction to Graduate Study. (3)</td>
<td></td>
<td>See course listing under musicology-composition department. F 13 852 0 1006</td>
</tr>
<tr>
<td>854</td>
<td>Research Seminar in Music Education. (3)</td>
<td></td>
<td>Continued application of techniques of research. The completion of a major research project is required. Prerequisite: Mus.-Comp. 852. F 11 854 9 0832</td>
</tr>
<tr>
<td>871</td>
<td>Philosophy of Contemporary Music Education. (2)</td>
<td></td>
<td>A study of historical trends and contemporary philosophies relevant to music education, behavioral objectives and curriculum planning. Prerequisite: Mus. Ed. 851. F 11 871 0 0832</td>
</tr>
<tr>
<td>875</td>
<td>Thesis Research. (2)</td>
<td></td>
<td>F 11 875 4 0832</td>
</tr>
<tr>
<td>876</td>
<td>Thesis. (2)</td>
<td></td>
<td>F 11 876 4 0832</td>
</tr>
<tr>
<td>231</td>
<td>Applied Music</td>
<td>(1)</td>
<td>Basic instruction. Repeatable for credit. Lower division. F 12 231 3 1004</td>
</tr>
<tr>
<td>232</td>
<td>Applied Music</td>
<td>(2)</td>
<td>For majors only. Repeatable for credit. Lower division. F 12 232 3 1004</td>
</tr>
</tbody>
</table>

**Music Performance**

**APPLIED MUSIC**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>431</td>
<td>Special Project in Music. (1-3)</td>
<td></td>
<td>Individually supervised study or research, with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 12 431 3 1004</td>
</tr>
<tr>
<td>432</td>
<td>Special Project in Music. (1-3)</td>
<td></td>
<td>Individually supervised study or research, with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 12 432 3 1004</td>
</tr>
</tbody>
</table>

*College of Fine Arts/Music Performance 243*
434. (4). For performance majors only. Repeatable for credit. Upper division. F 12 434 3 1004

731. (1). Repeatable for credit. Graduate. F 12 731 3 1004

732. (2). For majors only. Repeatable for credit. Graduate. F 12 732 3 1004

734. (4). For performance majors only. Repeatable for credit. Graduate. F 12 734 3 1004

Applied Music Abbreviations
A Bassoon  N Percussion
B Cello  P Piano
C Clarinet  Q Saxophone
D Euphonium  R String Bass
E Flute  S Trombone
F French Horn  T Trumpet
J Guitar  U Tabla
K Harp  V Viola
L Oboe  W Violin
M Organ  Y Voice

Applied Music Classes
117L. (1). Guitar Class. Beginners. F 12 117L 3 1004

118L. (1). Guitar Class. Intermediate. F 12 118L 3 1004

117P. (1). Piano Class. Beginning Majors. F 12 117P 3 1004

118P. (1). Piano Class. Music Majors. F 12 118P 3 1004

119P. (1). Piano Class. Piano Majors. F 12 119P 3 1004

120P. (1). Piano Class. Nonmajors. F 12 120P 3 1004

GENERAL PERFORMANCE
Noncredit Course
050. Recital. (0). F 12 050 1 1004

Lower Division Courses
107, 207. Piano Repertoire. (1-1). Designed to give performing and listening experience to piano majors. Repeatable for credit. F 12 107 2 1004; F 12 207 2 1004

121. Italian Diction. (1). Designed for the vocal performer, including a comprehensive study of Italian consonant and vowel sounds. F 12 121 0 1004

122. English Diction. (1). Designed for the vocal performers, including a comprehensive study of English consonant and vowel sounds. F 12 122 0 1004

148. Double Reed Making and Adjusting. (1). Making and adjusting oboe, English horn and bassoon reeds. Repeatable for credit. Prerequisite: Mus. Ed. 238 or instructor’s consent. F 12 148 2 1004

150. Music Performance Workshop. (1-4). Repeatable for credit. F 12 150 0 1004


217. Instrumental Conducting. (2). Fundamentals of baton technique, elementary score reading and musical leadership. Practical experience in conducting laboratory and classroom groups. F 12 217 0 1004

218. Choral Conducting. (2). Fundamentals of conducting, score reading and rehearsal techniques. Practical experience conducting classroom groups. Prerequisites: Mus.-Comp. 128 and Mus.-Comp. 130. F 12 218 0 1004

221. German Diction. (1). Designed for the vocal performer, including a comprehensive study of German consonant and vowel sounds. F 12 221 0 1004

222. French Diction. (1). Designed for the vocal performer, including a comprehensive study of French consonant and vowel sounds. F 12 222 0 1004

223-224. Applied Piano Accompanying. (2-2). Individual private study of standard accompaniment literature. Prerequisite: successful completion of 2 semesters of freshman piano study. F 12 223 0 1004; F 12 224 0 1004

233. Applied Piano Concerto. (2). Designed to give students concerto performance experience. Prerequisites: sophomore standing and admittance to the BM performance program. F 12 233 0 1004

Upper Division Courses
300. Junior Recital. (1). Required for BM piano majors, performance or accompan-
ing emphasis. Prerequisite: departmental consent. F 12 300 3 1004

307-407. Piano Repertoire. (1-1). Designed to give performing and listening experience to piano majors. Repeatable for credit. F 12 307 2 1004; F 12 407 2 1004

400. Recital. (1). Prerequisite: departmental consent. F 12 400 3 1004


423-424. Applied Piano Accompanying. (4-4). Individual private study of standard accompaniment literature. Prerequisite: successful completion of solo recital. F 12 423 0 1004; F 12 424 0 1004


Courses for Graduate/Undergraduate Credit

548. Double Reed Making and Adjusting. (1). Making and adjusting oboe, English horn and bassoon reeds. Repeatable for credit. Prerequisite: Mus. Ed. 238 or instructor’s consent. F 12 548 2 1004

550. Piano Pedagogy. (2). Primarily concerned with the art and science of teaching. Includes observations of master teachers in the University and community. F 12 550 0 1004

581. Piano Teaching Materials. (2). A survey of teaching methods and materials from beginning through early advanced levels. F 12 581 0 1004

625. Voice Pedagogy. (2). Designed to acquaint the voice major with vocal techniques, concepts and materials of private and class instruction. F 12 625 0 1004

627. Music Theater Directing. (2). Coaching, mounting and staging musical-drama productions, with emphasis on acting and directing techniques. Prerequisite: instructor’s consent. F 12 627 0 1004

651. Advanced Conducting and Score Reading. (2). Baton technique, score reading and musicianship. Prerequisite: Mus. Perf. 217 or 218 or equivalent. F 12 651 0 1004

690. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent. F 12 690 2 1004

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. Perf. 217 or 218 or equivalent. F 12 691 0 1004

707. Piano Repertoire. (1). Designed to give performing and listening experience to piano performance majors. Repeatable for credit. F 12 707 2 1004


750. Music Performance Workshop. (1-4). Repeatable for credit. F 12 750 0 1004

Courses for Graduate Students Only

841. Special Project in Music. (1-3). Individually supervised study or research, with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor’s consent. F 12 841 4 1004

842. Special Project in Music. (1-3). Individually supervised study or research, with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor’s consent. F 12 842 4 1004

852. Introduction to Graduate Study. (3). See course listing under musicology-composition department. F 13 852 0 1006

873. Graduate Recital. (2). Performance of a full recital featuring the chief performing medium. Prerequisite: consent of instructors in applied area. F 12 873 4 1004

College of Fine Arts/Music Performance 245
Musicology-Composition

Lower Division Courses

113. Introduction to Music. (2). Development of skills and techniques used in critical analysis and a comparison of the contrasting styles of music literature. The course is designed for music majors or students with advanced musical background. Must be taken concurrently with Mus.-Comp. 127 or 128. F 13 113 0 1006

114. Music Literature Survey. (2). A survey of representative works from the vocal and instrumental repertoire. Prerequisite: Mus.-Comp. 113 or instructor's consent. F 13 114 0 1006

127. Theory I. (2). Fundamentals of music, melodic writing and analysis, elementary melodic formal structures (cadences, phrase, period), basic orchestration and simple harmonic background and contrapuntal relationships applied to literature from all periods of music. One selected score being performed during the semester by a University ensemble is studied. Prerequisite: concurrent enrollment in Mus.-Comp. 129. F 13 127 0 1004

128. Theory II. (2). A continuation of Theory I. Formal expansion includes binary and ternary structures. Basic harmonic structures are further elaborated. Another score being performed by a University ensemble is studied. Prerequisites: Mus.-Comp. 127 and concurrent enrollment in Mus.-Comp. 129 or 130. F 13 128 0 1004

129. Aural Skills I. (2). Recognition, singing and dictation of melodies from all periods of music. Interval training emphasized. F 13 129 0 1004

130. Aural Skills II. (2). Continuation of melodic, rhythmic perception. Recognition and dictation of diatonic harmonic structures are included. Prerequisite: Mus.-Comp. 129. F 13 130 0 1004

160G. The Heritage of Western Music. (3). Intended to acquaint the nonmajor with the central tradition of Western music. Emphasis on the development of listening techniques by which the student may perceive and understand fundamental musical processes as they exist in the various styles within the Western heritage. F 13 160G 0 1005

161. Music Appreciation. (2). Intended to develop a capacity for critical listening and an appreciation for the various musical styles. Special attention is given to works from the standard musical repertoire. The course is designed exclusively for the nonmusic major. F 13 161 0 1005

162. Afro-American Music. (2). A survey of Afro-American music, its origins and development and the influence of Afro-American music in the United States up to the present time. F 13 162 0 1005

227. Theory III. (2). The study of contrapuntal forms and textures from music of all periods. Melodic, harmonic and rhythmic aspects of this music are explored, as well as basic orchestration techniques related to these textures. Study of an appropriate score being performed by a University ensemble is included. Prerequisite: Mus.-Comp. 128. F 13 227 0 1004

228. Theory IV. (2). Study of the larger homophonic forms (sonata, rondo) using techniques acquired in previous semesters. Analysis of an appropriate score being performed by a University ensemble is included. Prerequisite: Mus.-Comp. 227. F 13 228 0 1004

229. Aural Skills III. (2). Recognition, singing and dictation of contrapuntal textures, with continued harmonic practice emphasizing elementary chromaticism. Prerequisite: Mus.-Comp. 130. F 13 229 0 1004

230. Aural Skills IV. (2). Summation and expansion of previous skills, with further emphasis on harmonic chromaticism and atonal contexts. Prerequisite: Mus.-Comp. 229. F 13 230 0 1004

245. Jazz Improvisation. (2). Melodic, harmonic and rhythmic creation, with emphasis on the relationship of scale patterns and seventh chords. Prerequisites: Mus.-Comp. 128 and 130, or instructor's consent. Repeatable for credit. F 13 245 0 1004
259 & 260. Applied Composition. (2&2). Individual study in fundamentals of musical composition, with emphasis on the development and expansion of music materials. May be taken as an elective. May be repeated as an elective by those not majoring in theory-composition. Prerequisites: Mus.-Comp. 127 or equivalent, and instructor’s consent. F 13 259 3 1004 & F 13 260 3 1004

Upper Division Courses

310. Interrelated Arts. (3). Interdepartmental course presenting an aesthetic analysis of three arts. The course emphasizes style in the three arts. F 13 310 0 1005

315. Music of the 20th Century. (2). An aesthetic approach to music of this century, its major composers and stylistic and formal characteristics. It is designed primarily for the nonmusic major who has musical interest and background. F 13 315 0 1005

316. Symphonic Literature. (2). An advanced course in the great orchestral literature covering the development of the symphony orchestra and its music from the 18th century Mannheim school to the present. The course is designed primarily for the nonmusic major who has musical interest and background. F 13 316 0 1005

331. History of Music in the Middle Ages and Renaissance. (3). A survey of the evolution of musical styles and practices in the Western world through the 16th century. Lectures, reference readings and the study of representative examples of music are included. Prerequisites: Mus.-Comp. 113 and 227, or instructor’s consent. F 13 331 0 1006

332. History of Music in the 17th and 18th Centuries. (3). A survey of musical styles and practices of the baroque and classic periods. Lectures, reference readings and representative musical examples are included. Prerequisites: Mus.-Comp. 113 and 227. F 13 332 0 1006

333. History of Music in the 19th and 20th Centuries. (3). A survey of the styles and practices of romanticism and of the 20th century. Lectures, reference readings, performances and representative musical examples are included. Prerequisites: Mus.-Comp. 113 and 227. F 13 333 0 1006

345. Jazz Arranging. (2). Arranging for small and large jazz ensembles, with emphasis on current big band styles. Prerequisites: Mus.-Comp. 228 and 230 or instructor’s consent. F 13 345 0 1004

346. Styles of Jazz. (3). A survey of all eras in the evolution of the many styles in the jazz idiom from the end of the 19th century to the present. Open to majors and nonmajors. F 13 346 0 1006

493G. American Music. (3). A study of music in American society from 1620 to the middle of the 20th century. F 13 493G 0 1006

Courses for Graduate/Undergraduate Credit

519. Wind and Percussion Scoring. (2). An introductory course in scoring for the wind band, with emphasis on analysis of selected scores related to scoring techniques. The course is designed to acquaint the student with basic arranging techniques, score format and notation problems in scoring for the wind band. Prerequisite: Mus.-Comp. 641 or departmental consent. F 13 519 0 1004

523. Form and Analysis. (2). Extensive analysis of the forms and formal processes of musical literature. Prerequisite: Mus.-Comp. 227. F 13 523 0 1004

531. Introduction to Electronic Music. (2). Basic techniques of electronic music. Instruction is directed toward musicians who wish to use the electronic medium in teaching, performing or communicating in any way with their constituency. F 13 531 0 1004

559 & 560. Applied Composition. (2&2). Individual study in advanced musical composition, with emphasis on writing for small ensembles in the smaller forms. Designed for theory-composition majors. Repeatable. Prerequisites: Mus.-Comp. 260, with consent of theory-composition area faculty and department chairperson to continue as a theory-composition major. F 13 559 3 1004 & F 13 560 3 1004

561. 18th Century Counterpoint. (2). Contrapuntal devices of the 18th century as found in the works of J. S. Bach. Prerequisite: Mus.-Comp. 228. F 13 561 0 1004

563-564. Collegium Musicum. (1-1). A laboratory in the editing, rehearsing and performing of early music. Prerequisite: instructor’s consent. F 13 563 2 1003; F 13 564 2 1005

582-583. Piano Literature. (2-2). Survey of the historical eras of professional piano repertory. F 13 582 0 1006; F 13 583 0 1006
597-598. Organ Literature and Practice. (1-1). Performance and discussion of works for the instrument of all periods; study of organ design and construction; and practice in aspects of service playing, such as hymn playing, modulation, accompanying and improvisation. Prerequisite: Mus.-Comp. 228 or departmental consent. Required of all organ majors. Repeatable. F 13 597 0 1004; F 13 598 0 1004

623. Opera Literature. (2). A comprehensive survey of Italian, German, French, Russian, English and American opera literature from the 17th century to the present. Not limited to music majors. F 13 623 0 1006

624. Oratorio and Cantata Literature. (2). A study of the solo vocal literature of the larger sacred and secular forms from the 17th century to the present. Not limited to music majors. F 13 624 0 1006

626. Voice Literature. (3). A comprehensive survey of early Italian arias, French chansons, German lieders, contemporary English songs and Russian and Spanish literature. F 13 626 0 1006

641. Orchestration. (2). The study of instrumentation, emphasizing idiomatic scoring for various instrumental combinations, with an approach to the problems of full orchestra and band scores. Prerequisite: Mus.-Comp. 227. F 13 641 0 1004

645. Choral Arranging. (2). Scoring for women's, men's and mixed choruses. Performance and analysis of student's arrangements in class are included. Prerequisites: Mus.-Comp. 228 and 230. F 13 645 0 1004

652. Choral Materials. (2). A historical survey of choral literature from the Renaissance to the 20th century, with emphasis on availability of editions for performance. F 13 652 0 1006

659 & 660. Applied Composition (2&2). Individual study in musical composition, with emphasis on writing for both small ensembles and large groups in the larger forms. Prerequisites: Mus.-Comp. 560 and instructor's consent. Repeatable. F 13 659 3 1004 & F 13 660 3 1004

661, 16th Century Counterpoint. (2). Analysis and application of the contrapuntal composition techniques of the 16th century. Prerequisite: Mus.-Comp. 227. F 13 661 0 1004

671, Chromatic Harmony. (2). Advanced study of chromatic harmonic materials of all periods with special attention to the 19th century. Analysis and creative writing are emphasized. Prerequisite: Mus.-Comp. 227. F 13 671 0 1004

672. Contemporary Techniques. (2). Advanced study of music from impressionism to the present, with emphasis on related literature and creative writing. Prerequisite: Mus.-Comp. 228. F 13 672 0 1004

685. String Literature and Materials. (2). A survey and stylistic analysis of music for solo strings and chamber combinations, beginning with the early baroque period. F 13 685 0 1006

690. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent. F 13 690 2 1006


750. Musicology-Composition Workshop. (1-4). Repeatable for credit. Prerequisite: instructor's consent. F 13 750 0 1004

755. Basic Musicianship in the Secondary School Curriculum. (2). An examination of approaches to musicianship training at the secondary school level, including the study of fundamentals through musical analysis and composition in various styles. F 13 755 0 1004

759. Teaching of Theory in the Community Junior College. (2). Designed to prepare the junior college theory teacher. Attention is given to contemporary trends in music theory and their application to planning courses of study, evaluation of texts and pedagogical techniques. F 13 759 0 1004

791-792. Seminar in Music History. (3-3). Areas of interest in music history are developed as time permits. No effort at a chronological survey is made. Ideas evoking the most interest and considered by the instructor to be of the greatest professional benefit are included when interest warrants. F 13 791 9 1006; F 13 792 9 1006

Courses for Graduate Students Only

830. Seminar in Music Theory. (3). An analytical study of the materials used in musical composition from antiquity to the present, employing analytical approaches such as Schenker, Hindemith and serial techniques. The course is designed to develop analytical perspective rather than compositional skills. F 13 830 0 1004
840a-c. Seminar in the Techniques of Composition. (2). The nature of compositional techniques is examined through selected works in different media: (A) large ensembles, (B) small ensembles; and (C) solo literature. Prerequisites: Mus.-Comp. 671, 672 and 641, or departmental consent. F 13 840 9 1004

841-842. Special Project in Music. (1-3, 1-3). Individually supervised study or research, with emphasis on the professional needs of the student. Repeatable for credit. Prerequisite: instructor’s consent. F 13 841 4 1006; F 13 842 4 1006

852. Introduction to Graduate Study. (3). Techniques of research and development of bibliography in music and music education. The course must be elected the first available semester of enrollment. F 13 852 0 1006

859-860. Advanced Composition. (2-2). Original work in the large forms and a continuation and expansion of Mus.-Comp. 659-660. Prerequisite: Mus.-Comp. 660 or equivalent. F 13 859 3 1004; F 13 860 3 1004

Dance

Inquiries regarding curricular offerings and related experiences in Dance should be directed to the office of the Dean of the College of Fine Arts.

Lower Division Courses

212. Introduction to Dance. (4). 4R; 1L. Introduction to dance with emphasis on techniques relating to the participation, performance and teaching for the science and art of dance. F 25 212 0 1008

223. History and Philosophy of Dance. (2). 2R; 2L. A basic background in the history and philosophy of dance. F 25 223 0 1008

Courses for Graduate/Undergraduate Credit

512. Ethnic and Recreational Dance. (2). Materials selected from American and European countries utilized to develop methods for schools and recreational groups. F 25 512 0 1008

514. Creative Dance for Children. (2). Classwork, library work and observations of selected groups are utilized to develop creative dance concepts for the schools. F 25 514 1 1008

516. Dance Composition and Production. (2). F 25 516 1 1008

Courses for Graduate Students Only

871. Master’s Dance Recital. (2). Prerequisites: IS 704 and PE 860. F 25 871 4 1008

872. Recital Defense and Presentation of Report. (2). Prerequisites: IS 704 and PE 860. F 25 872 4 1008

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 3L, means 3 hours of lecture and 3 hours of lab.
Ernest Rova, *De Mandeville Print No. 2*
The College of Health Related Professions was established in 1970. Fifteen programs of study are presently offered at the undergraduate level, with five leading to the Bachelor of Science (BS): nursing, medical technology, physical therapy, health care administration and medical record administration. Four programs lead to a Bachelor of Health Science (BHS): cytotechnology, dental hygiene, physician’s assistant and respiratory therapy. In addition, the Associate of Science is awarded in dental hygiene and respiratory therapy. Students in the nurse clinician, physician’s assistant and emergency medical care training programs receive academic credit and a certificate of completion. At the graduate level a Master of Nursing (MN) is offered.

All formal health related programs leading to a degree or certificate from Wichita State University are administered through the College of Health Related Professions. Its staff provides general counseling and assistance in career planning for all of the health related professions listed above, as well as other health sciences.

Policies

ADMISSION

Requirements

All students desiring admission to the College of Health Related Professions must:

1. Meet Wichita State admission requirements (see the Admission to Wichita State section of the Catalog)
2. Have an overall grade point average of 2.00
3. Have on file the Medical History and Physical Examination Form, which must be completed by the time the student begins the professional phase of a College of Health Related Professions program
4. Secure American College Test (ACT) scores through the Wichita State University Testing Center
5. Meet the requirements in one of the following categories:
   a. Category I—Students Seeking a Baccalaureate Degree

In addition to meeting the general admission requirements to the College of Health Related Professions, each student must meet the college’s 24-hour transfer rule. (1) All students transferring to the College of Health Related Professions must have completed a minimum of 24 hours, out of which 12 hours must be in any combination of biology, chemistry, physics and/or mathematics. (2) Students must
maintain a minimum grade point average of 2.00 in the 12 hours of science courses.

b. Category II—Students Seeking Admission to the Associate Degree or Special Programs
Students seeking admission to associate degree or special programs must meet the general admission requirements of the college and the specific admission requirements for each program, as stated in the Wichita State University Catalog.

Admission to the college does not guarantee acceptance into any of the professional programs. To be admitted to a professional program, students must be accepted into Wichita State University and the College of Health Related Professions, apply for admission to a particular program and be accepted by the admissions committee of that particular program. See the individual programs for application procedures.

Health Professions Counseling Center
Students indicating an interest in pursuing a career in the health professions should make an appointment with the counselor in the Health Professions Counseling Center to clarify preprofessional and professional course and admissions requirements.

CREDIT BY EXAMINATION
Some of the programs in the College of Health Related Professions offer equivalency or competency type examinations. By taking these exams, students may earn credit or receive advanced placement. To qualify for such exams, students:

1. Must be accepted into the program (major) in which the course is offered as part of the professional curricula
2. Must meet any other eligibility requirements as stated by the particular department. (See the appropriate department’s section in the Catalog.)

Exception to these requirements may be granted to nonmajors by the chairperson of the department offering the course, with the approval of the College of Health Related Professions Exceptions-Admissions Committee.

Students should check with their departmental advisers about eligibility and prerequisite requirements for this type of examination. Transcripts will identify the courses and credits received by students taking equivalency/competency examinations.

Students will be charged $8.00 per credit hour, in advance, for the administration of the examination.

PROBATION AND DISMISSAL
Students are placed on probation for the next term in which they enroll if their cumulative grade point average falls below 2.00. Students
remain on probation even though they earn a 2.00 grade point average in the term during which they are on probation if their cumulative grade point average is not at least 2.00. Probation is removed when a student's cumulative grade point average meets the required level.

Students on probation may not enroll for more than 12 semester hours in a 15-week semester, or 5 hours in the eight-week Summer Session, excluding 1 hour of military science, physical education or marching band. Exception to this limitation may be made on the recommendation of a student’s adviser, with the approval of the dean of the college. Such exception is to be recorded by the University’s Committee on Admissions and Exceptions.

Students on probation are subject to academic dismissal from the College of Health Related Professions if their grade point average for the semester during which they are on probation falls below 2.00. Dismissal will not occur until students fail to achieve a 2.00 grade point average for the last 12 hours attempted while on probation.

Students assigned to affiliating clinical health facilities for clinical education will be subject to dismissal from the professional program for failure to meet the rules and regulations of professional standards governing a facility.

**PROGRESSION**

To progress in the professional sequence, a grade of C or better must be earned in all professional courses. If students receive a D or F in only one segment of a course that combines theory and clinical practice, they still fail the course. Students who receive a D or F in any professional course may not progress in the professional sequence. If their overall academic record remains at 2.00 or above and they desire to continue in the program, they may petition the Committee on Admission and Progression in their department.

**Degree Requirements**

All health related students who are pursuing a bachelor's degree must meet general University requirements and fulfill the course requirements specified in the curriculum of the department offering their degree.

A minimum of 30 credit hours in course work in residence at WSU is required for all students seeking a bachelor's degree, including those seeking a second bachelor's degree. In addition, these students must also complete all University, college and departmental requirements for the degree being sought. Completion of University courses is counted toward fulfillment of the residency requirement. For specific requirements consult the individual departmental sections of the Catalog.
COMMON COURSE REQUIREMENTS
The accompanying table identifies common courses required by various health related programs.

Clinical Affiliation
The college, because of its location in Wichita, has clinical affiliation agreements with various excellent health facilities, which assist in the clinical education of students. A listing of the clinical affiliations can be obtained from the dean's office.

Liability Insurance Requirements
Most students are required to purchase professional liability insurance in the amount of not less than $100,000/300,000 at the beginning of the professional phase of a College of Health Related Professions program; students in some programs may require additional coverage. This must be done on an annual basis.

Financial Aid
Scholarships and student loan funds are available for students in health related professions. Information on these and other scholarships and loans is available from the Wichita State University Office of Financial Aids and the department from which the student is seeking a degree or certificate.

BACCALAUREATE DEGREE PROGRAMS
The College of Health Related Professions offers the Bachelor of Science (BS) in health care administration, medical record administration, medical technology, nursing and physical therapy. Specific degree requirements are given under the appropriate department heading in this section of the Catalog.

A Bachelor of Health Science (BHS) is offered with majors in cytotechnology, dental hygiene, physician's assistant and respiratory therapy. Students in the BHS program must fulfill the general University requirements and may select one of the following emphasis options: (1) education, (2) administration and supervision or (3) natural or clinical sciences, with specific preparation available in the majors just listed. Courses in these options may be offered in the College of Health Related Professions, College of Business Administration, College of Education, College of Engineering and/or Fairmount College of Liberal Arts and Sciences. Each student's curriculum is structured individually, and a contract for the program is developed. The contract must be approved by the dean's representative in student affairs and signed by the student and the department chairperson before it may be
### Common Course Requirements

<table>
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<tr>
<th>Course</th>
<th>Nursing *</th>
<th>Physician’s Assistant</th>
<th>Physical Therapy</th>
<th>Medical Technology</th>
<th>Health Care Administration</th>
<th>Dental Hygiene</th>
<th>Cytotechnology</th>
<th>Respiratory Therapy</th>
<th>Medical Record Administration †</th>
<th>Nurse Clinician</th>
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<tbody>
<tr>
<td>Biol. 225</td>
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* Premedical students may take Chem. 103 or 111.

† To qualify for the Registry Examination, 16 hours in the natural sciences must be completed.
implemented. More details are given under the individual department listings.

Cytotechnology

The curriculum is designed for persons who wish to become professional cytotechnologists and work with pathologists in the detection of malignancy, or cancer cells, in various body fluids or in the identification of changes in cast-off body cells. The preprofessional part of the program includes the University's general education requirements and certain science courses that serve as prerequisites for the clinical year. The professional part of the program is spent in an approved hospital under the supervision of a specially trained pathologist and includes formal lectures and laboratory experience for which the student receives 30 credit hours. Upon completion of the clinical experience, students are eligible to take the registry examination in cytotechnology to qualify for certification as registered cytotechnologists—CT (ASCP). Students may then spend one additional year of work, based on an approved contract worked out with an adviser, and receive the Bachelor of Health Science, provided at least 30 hours of Wichita State residency credit has been earned.

PREPROFESSIONAL CURRICULUM

As a minimum, students must have two years of college, or a total of 60 semester credit hours, with 12 hours in the biological sciences, in order to be admitted to the clinical year. At least 8 hours taken in the biological sciences must include laboratory experience. Although not obligatory for admission into an approved school of cytotechnology, the following program sequence is recommended because of its strong emphasis on cellular biology and genetics, which prepares students for a better understanding of the technical and clinical aspects of cytotechnology.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tr>
<td>Biol. 113, Introductory Biology I</td>
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<td>Biol. 114, Introductory Biology II</td>
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<td>Biol. 225, Human Anatomy</td>
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<td>Biol. 226, Elementary Human Physiology</td>
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<td>Biol. 509G, Foundations of Human Heredity</td>
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<td>Chem. 111, General Chemistry</td>
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<tr>
<td>Chem. 112, General and Inorganic Chemistry</td>
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<tr>
<td>Eng. 101, College English I</td>
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<tr>
<td>Eng. 102, College English II</td>
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<tr>
<td>Math. 111, College Algebra</td>
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</tr>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
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<tr>
<td>Soc. 211, Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Interpersonal Communication</td>
<td>3</td>
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</tbody>
</table>
PROFESSIONAL CURRICULUM

Admission. Students must be accepted for the third year of training by an affiliated school of cytotechnology that is accredited by the Council on Medical Education of the American Medical Association and the American Society of Clinical Pathologists through its Committee on Cytotechnology and Board of Schools of Medical Technology. At the present time the schools of cytotechnology in Wichita are located at St. Francis Hospital and Wesley Medical Center.

Curriculum. The courses listed at the end of this section are offered by the affiliated school where the student is accepted for the third year of training, and are available only to students in the program.

Upper Division Courses

401. Introduction to Histology and Pathology. (3). Lectures and demonstrations in basic histology and studies in diagnostic cytology. Offered only in the fall semester. H 16 401 2 1299

405. Diagnostic Cytology of Female Reproductive System. (6). Microscopic study and diagnosis of benign and malignant cells found in smears and aspirations from female genital tract. Offered only in the fall semester. H 16 405 2 1299

411. Diagnostic Cytology of Respiratory System. (5). Microscopic study and diagnosis of benign and malignant cells in sputum and bronchial washings. Offered only in the fall semester. H 16 411 2 1299

414. Diagnostic Cytology of Effusions. (2). Microscopic study and diagnosis of benign and malignant cells in pleural, peritoneal, pericardial and cerebrospinal fluids. Offered only in the spring semester. H 16 414 2 1299

416. Diagnostic Cytology of Gastrointestinal System. (2). Microscopic study and diagnosis of benign and malignant cells found in cytological specimens from mouth, esophagus, stomach, colon and rectum. Offered only in the spring semester. H 16 416 2 1299

418. Diagnostic Cytology of Urinary System. (2). Microscopic study and diagnosis of benign and malignant cells found in urinary specimens. Offered only in the spring semester. H 16 418 2 1299

420. Diagnostic Cytology of Breast and Other Miscellaneous Sites. (2). Microscopic study and diagnosis of benign and malignant cells found in breast secretions, joint fluids, skin, cysts and other miscellaneous sites. Offered only in the spring semester. H 16 420 2 1299

423. Journal Seminars and Cytology Research. (3). Participation in journal seminars and research and selected topics of diagnosis cytology. Offered only in the spring semester. H 16 423 9 1299

427. Methodology. (5). Routine and special methods in collection and processing of specimens for cytology, cytogenetics and histology. Offered only in Summer Session. H 16 427 2 1299

Dental Hygiene

The Bachelor of Health Science program in dental hygiene is designed for the individual currently enrolled in the Wichita State University dental hygiene associate degree program or graduates of other accredited dental hygiene programs. The Bachelor of Health Science provides opportunities for dental hygienists to expand their role in education or administration and supervision of dental hygiene.
ADMISSION

Students wishing to work toward a baccalaureate degree should contact the dental hygiene department for individual advising. Students who are registered dental hygienists must:

1. Submit an application by March 1 of the year in which they plan to enroll

2. Meet the admissions requirements of Wichita State University and the College of Health Related Professions

3. Submit the results of the National Board Examination for Dental Hygienists and provide a letter of recommendation from the director of the dental hygiene program they attended.

A personal interview is required and must be initiated through an invitation from the Admissions Committee of the Department of Dental Hygiene.

Admission to the program is not a right acquired by meeting minimum admission requirements, but a privilege extended to students who exhibit motive, industry and behavior indicating potential to become dental hygienists of outstanding quality.

PROFESSIONAL CURRICULUM

The baccalaureate degree program requires completion of a basic program in dental hygiene plus the general requirements of the University. It is a two-track option program providing two interrelated courses of study. Students may select one of the following course options: (1) dental hygiene education or (2) administration and supervision.

Under this program, each student’s curriculum is structured individually. A contract thus developed is approved by the Degree Program Committee and is signed by the student and the department chairperson before implementation.

Upper Division Courses *

300. Dental Hygiene Practicum I. (3). 9L. Experience in teaching and supervising certificate dental hygiene students in the clinic and classroom. Prerequisite: departmental consent. H 12 300 2 1213

305. Periodontics for the Dental Hygienist. (3). Lecture and visual aid presentation and the etiology and classification of periodontal disease. A study of the treatment of the periodontally involved patient with further demonstration of advanced scaling and root planning procedures and local anesthesia as it relates to the periodontal patient. Prerequisite: departmental consent. Offered only in the fall semester. H 12 305 0 1213

310. Head and Neck Anatomy. (2). An in-depth study of the landmarks, muscles, nerves, vascular supply, etc. of the head and neck region. H 12 310 0 1213

350. Dental Hygiene Practicum II. (3). 6R. A continuation of DH 300. Prerequisite: departmental consent. H 12 350 2 1213

* Lower division and some upper division dental hygiene courses concerning the associate degree program in dental hygiene are given in the dental hygiene associate program section of the Catalog.
400. Dental Hygiene Practicum III. (3). 9L. A continuation of DH 350. Prerequisite: departmental consent. H 12 400 2 1213

450. Dental Hygiene Practicum IV. (3). 6R. Continuation of DH 400. Prerequisite: departmental consent. H 12 450 2 1213

460. Special Problems in Dental Hygiene. (3). A study of the requirements and guidelines for establishing dental hygiene schools, including the methods and standards of accreditation and admission procedures for schools of dental hygiene. Dental hygiene problems in the community will be discussed and evaluated; one problem will be studied in depth by each student. H 12 460 0 1213

470. Seminar in Advanced Practice Pain Control. (4). 3R; 3L. An in-depth study and review of the head and neck anatomy, physiology and pharmacology as they relate to local anesthesia. Laboratory section is provided. Prerequisite: departmental consent. Offered only in the spring semester. H 12 470 0 1213

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**Health Care Administration Program**

The program in health care administration seeks to develop professionally competent men and women to serve in administrative capacities in the health field. Health care administrators are employed in a variety of health related facilities and organizations—hospitals, nursing homes, private and public clinics, health insurance organizations, planning councils, educational institutions, and governmental agencies at federal, state and local levels. The program is part of the Department of Health Administration and Education, which is a member of the Association of University Programs in Health Administration. Upon satisfactory completion of the courses, as outlined, plus eight weeks (one summer) of practicum in a selected area, students receive the Bachelor of Science. Additional information regarding the selected areas of special emphasis can be obtained from the chairperson of the Department of Health Administration and Education.

**ADMISSION**

In order to be permitted to enroll in the health care administration curriculum, students must fulfill the following requirements. They must:

1. Be enrolled in or admitted to Wichita State University
2. Have completed or be enrolled in the required lower division courses
3. Have an overall grade point average of 2.00 or above in all college work completed.
CURRICULUM

Undergraduate

Major. The following courses, totaling 124 hours, are required for a major in health care administration. This curriculum meets both the University's general education and the department's requirements. All undergraduate students are strongly encouraged to take HAE 503 before taking other health administration and education courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communications (9 hours)</strong></td>
<td></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>Speech 111, Basic Public Speaking, or Speech 112, Basic Inter-personal Communication</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division A—Humanities and Fine Arts (9 hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum of 9 hours in two different departments</td>
<td></td>
</tr>
<tr>
<td><strong>Division B—Social and Behavioral Sciences (18 hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Econ. 201, Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 202, Principles of Economics II</td>
<td>3</td>
</tr>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Psych. 510, Psychology of Illness</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 211, Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 538, Medical Sociology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division C—Natural Sciences and Mathematics (6 or 7 hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Biol. 100G, Principles of Biology, or any higher level biology course</td>
<td>4</td>
</tr>
<tr>
<td>Math. 111, College Algebra, or Math. 109, College Algebra with review</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division D—Professional Studies (66 hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Acctg. 210, Introduction to Financial Accounting, or Acctg. 110 and 120, Basic Accounting I and II</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 220, Introduction to Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>Acctg. 320, Cost Accounting, or Admin. 642, Financial Management</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 340, Finance</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 360, Concepts of Administration</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 466, Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 664, Labor Relations, or Econ. 661, Collective Bargaining and Wage Determination</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 680, Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>Administration, 6 additional hours of upper division courses</td>
<td>6</td>
</tr>
<tr>
<td>HAE 410, Community Health Concepts, or HAE 111, Introduction to Community Health</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 192, Introduction to Management Information Systems for Business</td>
<td>3</td>
</tr>
<tr>
<td>HAE 440, Health Care Administration Practicum</td>
<td>6</td>
</tr>
<tr>
<td>HAE 490, Independent Study in Health Care Administration</td>
<td>3</td>
</tr>
<tr>
<td>HAE 503, Organization of the Health Care System</td>
<td>3</td>
</tr>
<tr>
<td>HAE 504, Health Economics</td>
<td>3</td>
</tr>
<tr>
<td>HAE 505, Politics of Health</td>
<td>3</td>
</tr>
<tr>
<td>HAE 507, Health Planning</td>
<td>3</td>
</tr>
<tr>
<td>HAE 590, Legal Aspects of Health Care Administration</td>
<td>3</td>
</tr>
<tr>
<td>HAE 603, Health Services Research</td>
<td>3</td>
</tr>
<tr>
<td>HAE 684, Seminar in Health Care Administration</td>
<td>3</td>
</tr>
</tbody>
</table>

Approved electives to complete the 124 graduation requirements
Upper Division Courses

440. Health Care Administration Practicum. (6). or (40L). A course providing the student with an opportunity for field experience in the health care system. Students must select, with the consent of an adviser, a specific internship in one of the following special areas: health care administration, nursing home administration, governmental health agency administration, voluntary health agency administration or hospital departmental administration. A written report is required. Prerequisite: senior standing or departmental consent. H 21 440 2 1202

490. Independent Study in Health Care Administration. (1-4). Supervised intensive study of special topics and problems relating to health care delivery. Repeatable up to 6 hours. Prerequisite: departmental consent. H 21 490 3 1202

Courses for Graduate/Undergraduate Credit

503. Organization and Administration of the Health Care System. (3). Cross-listed as Geron. 503. Analysis of the nature of health and the inputs to health and health care delivery. The course discusses general systems theory and systems analysis in relation to health care. It emphasizes the interrelatedness of economic, political and social aspects of the health services system. Current trends and the role of planning are considered, and students are exposed to guest lecturers with professional expertise in relevant areas. Prerequisite: departmental consent. H 15 503 0 1201

504. Health Economics. (3). Cross-listed as Econ. 665. An analysis of health care systems in the United States, including the demand for and supply of health care services, the quantity, quality and pricing of health services; the need for insurance; and the role of the government in the health sector. Prerequisite: HAE 503 or Econ. 202. H 15 504 0 1202

505. The Politics of Health. (3). Cross-listed as Pol. Sci. 505. Designed to show how government in the United States makes decisions in the health field, to describe the political forces shaping governmental policy in health, and to analyze the arguments for and against an increased governmental role in health. Prerequisite: HAE 503, Pol. Sci. 121 or departmental consent. H 15 505 0 1202

507. Health Planning. (3). Designed to demonstrate some of the major techniques of health planning and how their application is conditioned by social, economic and political factors. Among the functions of health planning that will be considered are: certificate of need, licensure, manpower forecasting and developing a health data base. Prerequisite: departmental consent. H 21 507 3 1202

590. Legal Aspects of Health Care Administration. (3). Cross-listed as Geron 590. A study of the principles of law as applied to the health fields. Such items as release of information, subpoena, records and testimony; settlement of claims (insurance); doctor-patient-nursing home relationship and legal consents; and other topics are considered. Prerequisite: junior standing or departmental consent. H 21 590 0 1202

605. Health Services Research. (3). Deals with intermediate statistical procedures and research designs that health professionals must understand in order to intelligently analyze research in the health care field and to conduct research themselves. This course covers the designs of experimental, survey and ex-post-facto research plus statistical techniques, including correlation coefficients, the t test, chi square and two-way analysis of variance. Prerequisite: departmental consent. H 15 605 0 1201

684. Seminar in Health Care Administration. (3). In-depth discussion and analysis of selected topics in health care administration. Topics vary from semester to semester and include examination of specific financial, managerial and operational problems and characteristics of health service organizations and agencies. Prerequisites: HAE 503 and at least one other HAE course. H 21 684 0 1201

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R means 3 hours of lecture and 40L means 40 hours of lab per week.
Medical Record Administration Program

The Bachelor of Science program in medical records administration, offered through the Department of Health Administration and Education, is designed to prepare administrators and health information coordinators for medical record departments. After completing a three-year preprofessional sequence at Wichita State University, students must transfer to the Department of Medical Record Administration at the University of Kansas Medical Center (KUMC) to complete the professional sequence. The professional sequence includes directed practice and clinical application, which may be taken at hospitals or other health institutions that are officially affiliated with either KUMC or Wichita State and that are approved by the American Medical Record Association. After completing these requirements, students receive the Bachelor of Science (BS) in Medical Record Administration from Wichita State and are eligible to become registered by successfully completing the registration examination given by the American Medical Record Association.

PREPROFESSIONAL CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin. 360, Concepts of Administration</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 100G, Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>Biol. 120, Introduction to Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>Biol. 225, Human Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 226, Elementary Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 192, Introduction to Management</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 192, Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 201, Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>Math. 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Phil. 121, Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Phil. 244, Ethics</td>
<td>3</td>
</tr>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Science elective</td>
<td>2</td>
</tr>
<tr>
<td>Soc. 211, Introduction to Sociology</td>
<td>3</td>
</tr>
</tbody>
</table>

ADMISSION TO PROFESSIONAL CURRICULUM

Students who have taken college work at Wichita State or other accredited colleges may apply for transfer into the four-year program by March 1 of their sophomore year. Such students must:

1. Submit official transcripts of high school and college work from each institution attended
2. Have a minimum grade point average of 2.00
3. Be accepted by the KUMC admissions committee

PROFESSIONAL CURRICULUM

The first year of the professional curriculum is offered at Wichita State and must include the following courses.
<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin. 464, Organizational Communication</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 466, Personnel Management</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 663, Organizational Interactions</td>
<td>0-3</td>
</tr>
<tr>
<td>Admin. 665, Organizational Development</td>
<td>3</td>
</tr>
<tr>
<td>Admin. 683, Comparative Institutional Management</td>
<td>3</td>
</tr>
<tr>
<td>HAE 410, Community Health Concepts</td>
<td>3</td>
</tr>
<tr>
<td>Psych. 550, Psychology of Illness</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 538, Medical Sociology</td>
<td>3</td>
</tr>
<tr>
<td>HS 411, Special Projects—Health Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 704, Introduction to Education Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

The following electives are recommended:

- HAE 503, Organization and Administration of the Health Care System - 3
- HAE 504, Health Economics - 3
- HAE 505, Politics of Health - 3
- HAE 507, Health Planning - 3

* Take any one of these three courses.

The second year of the professional curriculum is offered by the University of Kansas and may be found in its catalog. The courses offered in this program are Medical Terminology, Medical Record Science I and Laboratory, Organization and Administration I, Directed Practice I, Medical Record Science II and Laboratory, Fundamentals of Medical Science, Organization and Administration II, Legal Concepts for the Health Field, Directed Practice II, Medical Record Science III, Directed Practice and Affiliation, Seminar in Medical Record Administration, and Laboratory Experience.

**Medical Technology**

The medical technologist performs a variety of clinical laboratory procedures needed by the physician to give accurate diagnosis, prognosis and proper treatment to the patient. The medical technology program is designed to give students thorough scientific training and education. This knowledge enables them to know not only how to perform a test, but also the theory behind it.

The Bachelor of Science program in medical technology, requiring a total of 124 hours, includes three years of premedical technology curriculum in the basic sciences, social sciences, humanities and communication. The senior year, composed of the professional medical technology courses, lasts 12 months and is spent in a didactic experience in the student clinical laboratory. Some experience in affiliated clinical laboratories is included. The program has applied for accreditation by the National Accrediting Agency for Clinical Laboratory Sciences. Upon successful completion of the program, students are granted the Bachelor of Science in medical technology and are eligible to take the national examination for certification as MT (ASCP).
# PREPROFESSIONAL CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communications (9 hours)</strong></td>
<td></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>Speech 111, Basic Public Speaking, or Speech 112, Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division A—Humanities and Fine Arts (6 hours)</strong> *</td>
<td></td>
</tr>
<tr>
<td>Six hours in at least two different departments</td>
<td></td>
</tr>
<tr>
<td><strong>Division B—Social and Behavioral Sciences (9 hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Psychology electives</td>
<td>3</td>
</tr>
<tr>
<td>Course offered by any other department in the social and behavioral sciences division of the general education curriculum</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division C—Natural Sciences and Mathematics (72 hours)</strong></td>
<td></td>
</tr>
<tr>
<td>Biol. 113, Introductory Biology I</td>
<td>5</td>
</tr>
<tr>
<td>Biol. 114, Introductory Biology II</td>
<td>5</td>
</tr>
<tr>
<td>Biol. 550, Bacteriology</td>
<td>5</td>
</tr>
<tr>
<td>Biol. 584, Genetics</td>
<td>5</td>
</tr>
<tr>
<td>Biol. 590, Immunobiology</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 654, Pathogenic Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>Courses covering mammalian anatomy and physiology (select from Biol. 225, 226, 527, 534, 535)</td>
<td>6-9</td>
</tr>
<tr>
<td>Chem. 111, General Chemistry †</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 112, General and Inorganic Chemistry †</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 523, Analytical Chemistry †</td>
<td>4</td>
</tr>
<tr>
<td>Course coverage in organic chemistry (Chem. 531 &amp; 532, 10 hours, or Chem. 533 &amp; 534, 5 hours)</td>
<td>5-10</td>
</tr>
<tr>
<td>Math. 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Electives from areas of biology, chemistry, physics, mathematics or others as approved by Department of Medical Technology</td>
<td>12-15</td>
</tr>
</tbody>
</table>

* Students may wish to select General Studies courses to satisfy the University graduation requirement of 8 hours of General Studies courses. (See Academic Information—General Studies section of the Catalog.)
† May substitute Chem. 123-124, General and Analytical Chemistry (10 hours), if prerequisites are met. Check with adviser.

## ADMISSION TO THE PROFESSIONAL CURRICULUM

Students who intend to apply for admission into the professional curriculum apply during their third year in the program. They must complete the following courses and maintain a minimum cumulative grade point average of 2.50.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division D—Professional Studies (30 hours)</strong></td>
<td></td>
</tr>
<tr>
<td>MT 400, Special Topics</td>
<td>3</td>
</tr>
<tr>
<td>MT 411, Hematology</td>
<td>4</td>
</tr>
<tr>
<td>MT 413, Coagulation</td>
<td>2</td>
</tr>
<tr>
<td>MT 421, Serology</td>
<td>2</td>
</tr>
<tr>
<td>MT 422, Immunohematology</td>
<td>4</td>
</tr>
<tr>
<td>MT 430, Clinical Biochemistry</td>
<td>7</td>
</tr>
<tr>
<td>MT 440, Clinical Microbiology</td>
<td>8</td>
</tr>
</tbody>
</table>

Satisfactory completion of the premedical technology curriculum and the professional curriculum satisfies Wichita State general educa-
tion and graduation requirements for the Bachelor of Science in medical technology.

Acceptance into the professional phase of the program is determined by the Medical Technology Admissions Committee.

PROFESSIONAL CURRICULUM

The senior year, composed of the professional medical technology courses, lasts 12 months and is spent in a didactic experience in the student clinical laboratory. As part of the transition from a hospital-based to university-based program, students enroll in the medical technology courses offered each spring, summer and fall. Specific rotations may not correspond with the courses in which the student is enrolled, but by the end of the 12-month clinical year, all courses will be covered.

Upper Division Courses

400. Special Topics. (3). A study of general laboratory techniques, including clinical microscopy, cytogenetics, urinalysis, nuclear medicine, histology, laboratory management, teaching techniques and a special project, depending upon the clinical facility. Offered only in the fall. H 14 400 2 1223

411. Hematology. (4). A combined theory and practice course that emphasizes the diagnosis of hematologic diseases by laboratory methods. Offered only in the summer. H 14 411 2 1223

413. Coagulation. (2). Combined theory and practice course covering aspects of bleeding disorders and associated diagnostic laboratory procedures utilized in the evaluation of factor deficiencies. Offered only in the summer. H 14 413 2 1223

421. Serology. (2). A study of the theory and techniques of various serological procedures dealing with immunologic responses to infections and autoimmune diseases. Offered only in the fall. H 14 421 2 1223

422. Immunohematology. (4). Course includes the theory and laboratory procedures covering the basic and advanced principles of immunohematology and following AABB-approved transfusion practices. Offered only in the spring. H 14 422 2 1223

430. Clinical Biochemistry. (7). A study of routine and special clinical chemistry procedures and their significance in clinical medicine. Offered only in the fall. H 14 430 2 1223

440. Clinical Microbiology. (8). Includes combined theory and practice covering: (a) morphological, cultural and serological characteristics of the pathogenic bacteria, parasites and fungi and (b) techniques required for processing specimens and for identifying organisms encountered in clinical material. Offered only in the spring. H 14 440 2 1223

Nursing

The Bachelor of Science in Nursing program is designed to provide both university education and preparation for the practice of professional nursing. The graduate is prepared for beginning positions in any field of nursing in any health care delivery system or for further study at the master’s and doctoral levels and for advancement to nursing positions of increasing responsibility and leadership.
Students are admitted to the Department of Nursing at the junior year after completing 60-64 hours of coursework. Persons interested in the Bachelor of Science in Nursing may direct inquiries to: Chairperson, Department of Nursing, Wichita State University, Wichita, KS 67208.

PREPROFESSIONAL CURRICULUM

Students applying for admission to the Department of Nursing must have completed the following courses. Students should consider taking 16 hours per semester or attending Summer Session.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communications</strong> (9 hours)</td>
<td></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>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division A—Humanities and Fine Arts</strong> (6-9 hours)</td>
<td></td>
</tr>
<tr>
<td>Phil. 121, Introduction to Philosophy, or Phil. 100G, The Meaning of Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>Three to 6 hours in at least one other department</td>
<td></td>
</tr>
<tr>
<td><strong>Division B—Social and Behavioral Sciences</strong> (12 hours)</td>
<td></td>
</tr>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Psych. 361, Child Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 211, Introduction to Sociology</td>
<td>3</td>
</tr>
<tr>
<td>One course in anthropology, political science, economics, minority studies</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division C—Natural Sciences and Mathematics</strong> (19-22 hours)</td>
<td></td>
</tr>
<tr>
<td>Biol. 100G, Principles of Biology (if no previous or minimal high school biology)</td>
<td>4</td>
</tr>
<tr>
<td>Biol. 120, Introduction to Microbiology</td>
<td>3-4</td>
</tr>
<tr>
<td>Biol. 225, Human Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 226, Elementary Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 103, General Chemistry, or Chem. 111, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Three-hour course in statistics with Department of Nursing approval</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division D—Professional Studies</strong> (3 hours)</td>
<td></td>
</tr>
<tr>
<td>HS 331, Principles of Dietetics and Nutrition</td>
<td>3</td>
</tr>
<tr>
<td><strong>Electives</strong> (5-16 hours)</td>
<td></td>
</tr>
</tbody>
</table>

* Students who wish a minor in philosophy should take Phil. 121.
† Students should select some General Studies courses to meet the University graduation requirement of 8 hours of General Studies courses. See Academic Information—General Studies section of the Catalog.
‡ Math. 111 may be required as a prerequisite to statistics.

ADMISSION TO DEPARTMENT OF NURSING

Students who have satisfactorily completed three semesters of lower division courses may request an application for admission from the Department of Nursing. Applications for fall semester admission must be received by March 1; for spring semester admission, no later than August 1. To qualify as a candidate for admission to the Department of Nursing, students must:

1. Be enrolled in, or admitted to, Wichita State University
2. Have completed, or have plans to complete, the lower division requirements
3. Have an overall grade point average of at least 2.50 in all courses completed, and no grade lower than a C in any of the specified required courses
4. Submit a letter of intent including expected semester of enrollment.

Registered nurse students, in addition to the above requirements, must:
1. Submit a photocopy of current license to practice as a registered nurse in Kansas
2. Submit official transcripts of college courses and records from the school of nursing.

Registered nurse students who have met these requirements may obtain information from the Department of Nursing regarding enrollment in the transition course, Nurs. 334, Dimensions of Professional Nursing, and Advanced Standing Examinations by which they may demonstrate competency in required nursing courses.

PROFESSIONAL CURRICULUM

The following courses in the Department of Nursing are required for the Bachelor of Science in nursing. A total of 124 hours of university credit is required for graduation.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division A—Humanities and Fine Arts (3 hours)</td>
<td></td>
</tr>
<tr>
<td>Nurs. 327, Nursing as a Practice Discipline</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 332, Dimensions of Self-Care</td>
<td>4</td>
</tr>
<tr>
<td>Nurs. 336, Design of Nursing Systems</td>
<td>5</td>
</tr>
<tr>
<td>Nurs. 343, Elements of Pathology and Medical Therapeutics I</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 349, Nursing Systems: Age and Role</td>
<td>3-4</td>
</tr>
<tr>
<td>Nurs. 347, Nursing Systems: Behavioral and Organic Disorders</td>
<td>3-4</td>
</tr>
<tr>
<td>Nurs. 352, Nursing Practice</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 463, Elements of Pathology and Medical Therapeutics II</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 466, Nursing Systems: Families</td>
<td>4-5</td>
</tr>
<tr>
<td>Nurs. 468, Scholarship Dimensions of Nursing</td>
<td>4-5</td>
</tr>
<tr>
<td>Nurs. 472, Nursing Systems: Health Delivery Systems</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 473, Senior Seminar</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 474, Nursing Systems: Individuals and Small Groups</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 478, Nursing Systems: Large Groups</td>
<td>3</td>
</tr>
<tr>
<td>Nurs. 334, Dimensions of Professional Nursing</td>
<td>5</td>
</tr>
</tbody>
</table>

Twelve elective credits in upper division courses, 9 of which must be taken outside the Department of Nursing.

* Each student must select the maximum number of credits in one of these courses.
† A transition course designed to be taken by registered nurse students.

College of Health Related Professions/Nursing 267
OTHER REQUIREMENTS

Students must purchase uniforms and other apparel for use during some clinical laboratory experiences and are required to provide their own transportation to and from health care agencies used for these experiences. Lab fees may be assessed. Students are required to purchase professional liability insurance in the amount of not less than $100,000/$300,000; the insurance must be renewed annually. Students must provide evidence of a completed physical examination prior to clinical laboratory experiences each academic year. Information related to these requirements is available from the Department of Nursing.

Upper Division Courses

325. Communication in Health Professions. (3). Elective. Study of selected communication theories and concepts relevant to health care, with emphasis on applications of communication concepts to self-actualization, interpersonal relationships, health care delivery systems, and client-professional interactions. Open to nonnursing majors. H 11 325 0 1203


332. Dimensions of Self-Care. (4). 3R; 3L. The study of self-care practices of individuals and groups in health and within ranges of physiological and psychological alterations. Emphasis is on cultural and scientific norms for universal self-care requirements. Self-care agency and deliberate action will be studied. Open to nonnursing majors with departmental consent. Concurrent courses: Nurs. 327 and 336. H 11 332 1 1203

334. Dimensions of Professional Nursing. (5). 4R; 3L. A course designed to provide for registered nurse students an introduction to the study of nursing as a practice discipline and professional nursing roles. Emphasis is placed on the self-care concept of nursing and its use in professional practice, education and scholarship. Prerequisite: admission to department or departmental consent. H 11 334 1 1203

336. Design of Nursing Systems. (5). 3R; 6L. The study of knowledge, attitudes and skills for the design, implementation and evaluation of nursing systems for individuals. Methods of assistance and types of nursing systems will be studied. Prerequisite: admission to department or concurrent enrollment in Nurs. 327 and 332. H 11 336 1 1203

343. Elements of Pathology and Medical Therapeutics I. (3). The study of psychological and physiological pathology which underlies specific health problems and leads to self-care deficits which are studied in concurrent nursing courses. Health problems will be examined in terms of pathology, diagnostic and treatment methods, and impact on society. Prerequisites: Nurs. 327, 332 and 336. Open to nonnursing majors with departmental consent. H 11 343 0 1203

347. Nursing Systems: Behavioral and Organic Disorders. (3-4). The study of design and control of nursing systems for individuals with attention to behavioral and organic disorders and relations among these, health state and health care situations. The major types of nursing systems to be studied are partly and wholly compensatory. Each student will participate in the 3-hour course. Students may elect to enroll for one additional 1-hour component which will permit the student to examine a specific nursing system in increased depth. Prerequisites: Nurs. 327, 332, 336, and concurrent enrollment in Nurs. 343, 349 and 352. H 11 347 0 1203

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 9L stands for 3 hours of lecture and 9 hours of lab.

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349. Nursing Systems: Age and Role. (3-4). The study of design and control of nursing systems for individuals with attention to age, developmental stage, life cycle events and various roles as these are determinants of nursing systems. The major type of nursing system to be studied is supportive educative. Each student will participate in the 3-hour course. Students may elect to enroll for one additional 1-hour component which will permit the student to examine a specific nursing system in increased depth. Prerequisites: Nurs. 343, 347, 349, 352 and concurrent enrollment in Nurs. 463 and 468. H 11 466 1 1203

468. Scholarship Dimensions of Nursing. (4-5). 3 or 4R; 3L. The study of research and theory development in nursing and the use of these in developing nursing knowledge. Students will examine research problems and use research findings in clinical nursing situations. Relations among roles of practitioner, educator, researcher and theory developer will be examined. Students may elect to enroll in one additional 1-hour component which will permit the student to examine a specific aspect of nursing scholarship in increased depth. Prerequisites: Nurs. 343, 347, 349, 352, and concurrent enrollment in Nurs. 463 and 466. H 11 468 1 1203

472. Nursing Systems: Health Delivery Systems. (3). 9L. This practicum course examines systems of nursing delivery as a part of the larger health care delivery system with emphasis on organization and administration, change and control technologies. The student may select from a variety of health care systems for clinical nursing experiences. Prerequisites: Nurs. 463, 466, 468, and concurrent enrollment in Nurs. 473, 474 and 478. H 11 472 1 1203

473. Senior Seminar. (3). A course for examination of issues and problems from clinical learning experiences in the clinical courses of the last semester. The student is assisted with the transition from role of student to role of professional nurse practitioner. Prerequisites: Nurs. 463, 466, 468, and concurrent enrollment in Nurs. 472, 474 and 478. H 11 473 1 1203

474. Nursing Systems: Individuals and Small Groups. (3). 9L. This practicum course emphasizes the complexity of design and control of nursing systems for individuals and small groups with a specified range of self-care deficits. The student may elect to concentrate on wholly compensatory, partly compensatory or educative supportive nursing systems. Prerequisites: Nurs. 463, 466, 468, and concurrent enrollment in Nurs. 472, 473, and 478. H 11 474 1 1203

Courses for Graduate/Undergraduate Credit

505. Directed Study in Nursing. (1-4).
Elective. Individual study of the various aspects and/or problems of professional nursing. Repeatable. Prerequisite: departmental consent. H 11 505 3 1203

570. Interpretations of Sexuality for Health Professions. (3). Cross-listed as HS 570. Elective. Strategies to assist clients and families to cope with sexual problems and disorders. Emphasis on relating varying interpretations of biological, psychological and cultural aspects of sexuality to the helping professions. Open to non-nursing majors. H 11 570 0 1203

700. Advanced Concepts in Nursing. (3). A course in which students explore, in depth, concepts germane to nursing practice. Concepts include, but are not limited to, stress, coping, anxiety and pain. Nursing interventions, relative to the concepts, are tested and evaluated. Prerequisite: admission to Graduate School. H 11 700 1 1203

715. Nursing Care of the Well Child. (2-8). The entire elective course, comprised of multiple modules, is concerned with theory and skills underlying nursing management of the well child and family. Current research is examined with emphasis on clinical application; specific clinical problems are analyzed. Prerequisites: admission to Graduate School; Nurs. 700, 735A, 760 or 800; and departmental consent prior to registration. H 11 715 1 1203

725. Nursing Care of the Ill Child. (2-8). The entire course, comprised of multiple modules, is concerned with theory and skills necessary for nursing of the ill child and family. The course is designed to study the health care consumer as an integrated whole. Emphasis is given to the normal biopsychosocial structure and function from the cellular to universal or high levels of organization as an integrative theoretical basis for nursing care and management. Current research is analyzed, with emphasis on application to selected clinical situations. Prerequisites: admission to Graduate School; Nurs. 700, 735A, 760 or 800; and departmental consent prior to registration. H 11 725 1 1203

735. Nursing Care of the Well Adult. (2-8). A primarily didactic course (with clinical arrangements as the student and instructor feel necessary) comprised of multiple modules. The course in total is designed to study the health care consumer as an integrated whole. Emphasis is given to the normal biopsychosocial structure and function from the cellular to universal or high levels of organization as an integrative theoretical basis for nursing care and management. Current research is analyzed, with emphasis on application to selected clinical situations. Prerequisites: admission to Graduate School; Nurs. 700, 735A, 760 or 800; and departmental consent prior to registration. H 11 735 1 1203

745. Nursing Care of the III Adult. (2-8). A course, comprised of multiple modules, that assists the student in developing in-depth knowledge relating to biopsychosocial principles underlying nursing care of the ill adult. Prerequisites: admission to Graduate School; Nurs. 700, 735A, 760 or 800; and departmental consent prior to registration. H 11 745 1 1203

760. Philosophical Bases of Research. (3). A course in which the student is assisted to develop the philosophical and conceptual principles and premises that govern research decisions and their application to current investigations. Consideration of value questions in research and the relationships between values and concepts of valuing, rational decision making, conceptual analysis and theory in nursing research. Prerequisites: admission to Graduate School; Nurs. 560 or equivalent; IS 704 or equivalent, and departmental consent. H 11 760 1 1201

790. Special Studies in Nursing. (1-6). A course allowing opportunity for students and faculty to engage in extensive study of particular content and skills directly or indirectly related to nursing practice. Repeatable. Prerequisites: admission to Graduate School and departmental consent prior to registration. H 11 790 0 1203

795. Nursing Practicum in Special Settings. (1-6). Opportunity for directed practice in various settings, including clinical specialties, nursing administration, nursing education and consultation. The student plans, in collaboration with major adviser and preceptor, objectives and evaluative criteria for the experience. Prerequisites: admission to Graduate School; Nurs. 735A, 760, 700 or 800; and departmental consent prior to registration. H 11 795 2 1203

799. Directed Readings in Nursing. (1-2). An opportunity for the student to engage in critical search of the literature in areas related to the profession and practice of nursing. Prerequisites: admission to Graduate School and departmental consent prior to registration. H 11 799 3 1203

Courses for Graduate Students Only

800. Graduate Seminar in Nursing. (2). Repeatable for credit. Current issues in
nursing are analyzed and discussed. Topics are drawn from current social, professional and educational concerns, role definitions, legislation, etc. Guests and other faculty are invited to contribute, and students learn to organize and conduct the seminar. Ongoing each semester, the course provides a consistent open forum for dialog. Prerequisite: admission to Graduate School in nursing. H 11 800 9 1203

810. Thesis. (6). An opportunity for the student, in conjunction with the academic adviser and a three-member thesis committee, to design and conduct a formal research project. Prerequisites: admission to Graduate School, Nurs. 760 and departmental consent prior to registration. H 11 810 3 1201

820. Graduate Project: Alternative to Thesis. (3-6). An opportunity to develop and pursue a scholarly project other than a thesis. This may take the form of a position paper, historical study, a philosophical paper or other type project developed in conjunction with the student’s faculty adviser. Prerequisites: admission to Graduate School, Nurs. 760 and departmental consent prior to registration. H 11 820 4 1201

830. Independent Study. (1-6). Independent study provides opportunity for the student to develop, in collaboration with a departmental faculty member, objectives and protocol for independent work related to the practice of nursing. Prerequisites: admission to Graduate School and departmental consent prior to registration. H 11 830 3 1201

Physical Therapy

The physical therapy professional program prepares students to become health care professionals who work with patients disabled by illness or accident or born with a handicap. Physical therapists also work to prevent functional disability and to maintain health. They evaluate neuromuscular, musculoskeletal, sensorimotor and related functions to determine the degree of muscle strength, motor development, motion, neurological, respiratory ventilation and/or peripheral circulatory efficiency.

Physical therapists plan and implement treatment programs based on test findings after a referral from a licensed physician or dentist. Treatments by physical therapists include exercises for increasing strength, endurance, coordination and range of motion; stimuli to facilitate motor activity and learning; instruction in activities of daily living and the use of assistive devices; and the application of physical agents, such as heat and cold, sound and water, to relieve pain or alter physiological status. In addition, they try to motivate patients, their families, and others involved in the prevention and treatment of functional disabilities.

The Bachelor of Science program at Wichita State includes two years of prephysical therapy study in the natural and social sciences, communication and humanities followed by two years (four semesters plus one summer) in advanced sciences, professional study and clinical education. The Wichita State program has been accredited by the American Physical Therapy Association and the American Medical Association. Graduates of the program are eligible to complete the national and state examinations required for licensure.
PREPROFESSIONAL CURRICULUM

Students who intend to apply for admission into the physical therapy professional curriculum must complete the following courses. Satisfactory completion of the prephysical therapy curriculum and the professional curriculum also satisfies Wichita State’s general education graduation requirements for the Bachelor of Science in physical therapy.

Course Hrs.  
Communications (9 hours)  
Eng. 101, College English I ........................................ 3  
Eng. 102, College English II ...................................... 3  
Speech 111, Basic Public Speaking, or Speech 112, Interpersonal Communication ........................................ 3  
Division A—Humanities and Fine Arts (9 hours) *  
Nine hours in at least two different departments  
Division B—Social and Behavioral Sciences (9 hours)  
Psych. 111, General Psychology .................................. 3  
Psychology elective .................................................. 3  
Soc. 211, Introductory Sociology .................................. 3  
Division C—Natural Sciences and Mathematics (36-37 hours)  
Biol. 113, Introductory Biology I ................................ 5  
Biol. 225, Human Anatomy ........................................ 3  
Biol. 226, Elementary Human Physiology ..................... 3  
Chen. 111, General Chemistry I .................................. 5  
Chen. 112, General and Inorganic Chemistry .................. 5  
Math. 111, College Algebra, and 123, College Trigonometry  
or  
Math. 112, Precalculus Mathematics .......................... 5-6  
Phys. 213, General College Physics I .......................... 5  
Phys. 214, College Physics II ................................. 5  

* Students may wish to select General Studies courses to satisfy the University’s graduation requirement of 8 hours of General Studies courses. See the Academic Information—General Studies section of the Catalog.

ADMISSION TO PROFESSIONAL CURRICULUM

In order to enter in the physical therapy professional curriculum, students must:  
1. Be enrolled or admitted to Wichita State  
2. Have a minimum cumulative grade point average of 2.50, including a minimum 2.50 grade point average in the required science courses  
3. Submit to the Physical Therapy Admission Committee all application forms, test results, information and fees requested by the committee by March 1 of the year they plan to enter the professional curriculum (application forms must be requested before December 20)  
4. Complete the Allied Health Professions Admission Test and the 16 PF  
5. Have completed or be enrolled in the last semester of the prephysical therapy curriculum
6. Be personally interviewed and accepted by the Physical Therapy Admissions Committee.

A $50.00 nonrefundable tuition deposit is required of all students accepted by the committee.

Students may petition the committee for an exception to one of these requirements, provided they are able to show that valid circumstances prevent compliance with that requirement.

PROFESSIONAL CURRICULUM

The following courses are required of students accepted into the professional phase of the physical therapy program.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division D—Professional Studies</strong></td>
<td></td>
</tr>
<tr>
<td>Biol. 470, Applied Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>HS 301, Clinical Pharmacology</td>
<td>2</td>
</tr>
<tr>
<td>HS 400, Clinical Pathophysiology (physical therapy section)</td>
<td>3</td>
</tr>
<tr>
<td>Approved electives</td>
<td>3</td>
</tr>
<tr>
<td>PT 299, Introduction to Medical Terminology</td>
<td>1</td>
</tr>
<tr>
<td>PT 301, Introduction to Physical Therapy</td>
<td>1</td>
</tr>
<tr>
<td>PT 302, Clinical Education I</td>
<td>1</td>
</tr>
<tr>
<td>PT 310B, Gross Anatomy</td>
<td>6</td>
</tr>
<tr>
<td>PT 312, Clinical Education II</td>
<td>1</td>
</tr>
<tr>
<td>PT 320, Applied Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>PT 370, Evaluation and Treatment in Physical Therapy I</td>
<td>6</td>
</tr>
<tr>
<td>PT 380, Basic Human Growth and Development and the Aging Process</td>
<td>2</td>
</tr>
<tr>
<td>PT 410, Medical Sciences</td>
<td>3</td>
</tr>
<tr>
<td>PT 411, Special Projects</td>
<td>2</td>
</tr>
<tr>
<td>PT 420, Evaluation and Treatment in Physical Therapy II</td>
<td>5</td>
</tr>
<tr>
<td>PT 422, Clinical Education III</td>
<td>2</td>
</tr>
<tr>
<td>PT 432, Clinical Education IV</td>
<td>3</td>
</tr>
<tr>
<td>PT 442, Clinical Internship I</td>
<td>4-6</td>
</tr>
<tr>
<td>PT 452, Clinical Internship II</td>
<td>4-6</td>
</tr>
<tr>
<td>PT 460, Management of Human Disease</td>
<td>3</td>
</tr>
<tr>
<td>PT 470, Evaluation and Treatment in Physical Therapy III</td>
<td>4</td>
</tr>
<tr>
<td>PT 480, The Physical Therapist in Practice</td>
<td>2</td>
</tr>
<tr>
<td>PT 489, Basic Joint Mobilization</td>
<td>2</td>
</tr>
<tr>
<td>PT 511, Neuroanatomy and Neurophysiology</td>
<td>3</td>
</tr>
<tr>
<td>One of Psych. 365, Psychology of Aging; Psych. 510, Psychology of Illness; or Soc. 537, Social Consequences of Disability</td>
<td>3</td>
</tr>
</tbody>
</table>

SPECIAL REQUIREMENTS

Students are required to purchase uniforms and other apparel needed during clinical learning experiences. Students are also required to purchase professional liability insurance (in the amount of not less than $100,000/$300,000) and health insurance coverage. This must be done on a yearly basis. In addition, students are required to provide their own transportation to and from the health care facilities used for clinical experiences. During internship assignments outside Wichita, students may be required to pay all living and travel expenses.

Information related to special requirements is available in the office of the Department of Physical Therapy.
Upper Division Courses

299. Introduction to Medical Terminology. (I). This course introduces the students to the prefixes, roots and suffixes commonly used in medical and scientific terminology and the formation of the terms. Students may complete the course through independent study and completion of two exams. Intended for students planning to enter a health profession. H 17 299 0 1201

301. Introduction to Physical Therapy. (I). Introduction to techniques, personal and professional ethics, opportunities, responsibilities and supportive personnel in physical therapy. Offered only in the fall. Prerequisite: departmental consent. H 17 301 0 1212

302. Clinical Education I. (1). IL; 2P. Introduction to basic patient care in various hospital departments. Prerequisite: departmental consent. H 17 302 2 1212

310. Gross Anatomy. Section A: (3). Section B: (6). 3R; 9L. A study of the structure of the human body, with major emphasis on the skeletal and muscular systems. Laboratory (section B) includes dissection of the human cadaver. Open to nonphysical therapy majors. Prerequisite: departmental consent. H 17 310 0 0412

312. Clinical Education II. (1). 4P. Application of the skills acquired in PT 370 to patients in physical therapy clinics in Wichita, supervised by a physical therapist at each clinic. Prerequisite: departmental consent. H 17 312 2 1212

320. Applied Biomechanics. (3). 3R; 2L. Analysis of the integration of the systems of the body to produce normal motion and the effects of dysfunction on normal motion. Prerequisite: departmental consent. H 17 320 0 1212

370. Evaluation and Treatment in Physical Therapy I. (6). 3R; 9L. Presentation of the theory and application of techniques of basic evaluation and treatment procedures used in physical therapy, including gait analysis, goniometry, muscle testing, therapeutic exercise, the physical agents and other selected topics. Prerequisite: departmental consent. H 17 370 0 1212

380. Basic Human Growth and Development and the Aging Process. (2). 2R; 1L. Introduction to growth and development from conception through aging. Includes basic concepts of development of the musculo-skeletal, neurophysiological and cardiovascular systems and significant changes which occur throughout the aging process. Included in the course will be evaluation tools used in assessing the most prevalent motor and developmental disabilities in children under five years of age. Basic physical therapy treatment procedures used in treating these conditions will also be presented. Prerequisite: departmental consent. H 17 380 0 1212

410. Medical Sciences. (3). Pathological conditions commonly encountered by physical therapists and other health professionals are studied. Prerequisite: departmental consent. H 17 410 0 1201

411. Special Projects. (1-5). arr. An introduction to the performance of investigative study through the completion of a project in, or related to, the field of physical therapy. Students may accumulate a maximum of 4 hours credit. Prerequisite: departmental consent. H 17 411 3 1212

420. Evaluation and Treatment in Physical Therapy II. (5). 3R; 6L. Presentation of the theory and application of techniques of evaluation and treatment procedures used in physical therapy, including electrotherapy, electrodiagnosis and electromyography, selected therapeutic exercise techniques and other topics. Prerequisite: departmental consent. H 17 420 0 1212

422. Clinical Education III. (2). 8P. Continuation of PT 422. Prerequisite: departmental consent. H 17 422 2 1212

431. Physical Therapy Assessment Procedures. (2). 1R; 2L. A presentation of tests and measurements of function utilized by physical therapists, including electrodiagnosis and electromyography. Prerequisite: departmental consent. H 17 431 1 1212

432. Clinical Education IV. (3). 12P. Continuation of PT 432. Prerequisite: departmental consent. H 17 432 2 1212

442. Clinical Internship I. (4-6). 40P. Full-time assignments to physical therapy clinics where the student is responsible for patient evaluation and the planning, administration and evaluation of treatment programs under supervision. Offered only in Summer Session. Prerequisite: departmental consent. H 17 442 40P

The following abbreviations are used in the course descriptions: R stands for lecture, L for laboratory and P for practicum. For example, 3R; 9L stands for 3 hours of lecture and 9 hours of lab. The hours of practicum per week are given in front of the letter; 4P means 4 hours of practicum per week.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>452</td>
<td>Clinical Internship II</td>
<td>(4-6)</td>
<td>40P. Continuation of PT 442 at a different clinic. Prerequisite: PT 442. H 17 452 2 1212</td>
</tr>
<tr>
<td>460</td>
<td>Management of Human Disease</td>
<td>(3)</td>
<td>An exploration of medical, surgical, and physical therapy treatment of selected disorders and the criteria used in the selection of specific physical therapy procedures. Prerequisite: departmental consent. H 17 460 0 1212</td>
</tr>
<tr>
<td>470</td>
<td>Evaluation and Treatment in Physical Therapy III</td>
<td>(4)</td>
<td>3R; 3L. Presentation of the theory and application of techniques of evaluation and treatment procedures used in physical therapy, including units on orthotics and prosthetics, cardiopulmonary rehabilitation, sports medicine and other selected topics. Prerequisite: departmental consent. H 17 470 0 1212</td>
</tr>
<tr>
<td>479</td>
<td>Basic Joint Mobilization</td>
<td>(2)</td>
<td>1R; 2L. Provides the basic knowledge and skills necessary to select and perform appropriate techniques of joint mobilization for the evaluation and treatment of joint dysfunction. Prerequisite: departmental consent. H 17 479 1 1212</td>
</tr>
<tr>
<td>480</td>
<td>The Physical Therapist in Practice</td>
<td>(2)</td>
<td>A study of administrative, supervisory, organizational and consultative roles of a physical therapist, including current trends in physical therapy and health care, employment opportunities and legal responsibilities. Offered only in the spring semester. Prerequisite: departmental consent. H 17 480 0 1212</td>
</tr>
<tr>
<td>489</td>
<td>The Physical Therapist in Practice</td>
<td>(2)</td>
<td>A study of administrative, supervisory, organizational and consultative roles of a physical therapist, including current trends in physical therapy and health care, employment opportunities and legal responsibilities. Offered only in the spring semester. Prerequisite: departmental consent. H 17 489 1 1212</td>
</tr>
</tbody>
</table>

### Courses for Graduate/Undergraduate Credit

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>Advanced Developmental Disabilities</td>
<td>(1)</td>
<td>1R; 1L. Elective. The emphasis of this course is on advanced evaluation and treatment of children with perceptual motor and/or developmental disabilities. Reading assignments, class discussions and laboratory experiences will be directed toward student's interests or particular needs. Prerequisite: PT 380. H 17 500 0 1212</td>
</tr>
<tr>
<td>511</td>
<td>Neuroanatomy and Neurophysiology</td>
<td>(3)</td>
<td>2R; 2L. Study of the structure, physiology and functions of the central and peripheral nervous systems. Prerequisite: PT 310 or Logo. 214. H 17 511 0 0425</td>
</tr>
</tbody>
</table>

## Physician's Assistant Program

The Physician's Assistant Program is a 24-month program designed to train Type A primary care physician's assistants. As defined by the National Academy of Sciences, the physician's assistant "is a skilled person qualified by academic and practical training to provide patient services under the supervision and direction of a licensed physician who is responsible for the performance of that assistant." All students completing the two-year course of study receive a certificate. Students who have completed all University degree requirements in addition to physician's assistant requirements receive the Bachelor of Health Science. Graduates of the program are eligible to take the National Board Examination of the National Board of Medical Examiners and to be registered in states that have made provisions for the registration of physician's assistants, including Kansas. Students registered in the program are awarded Wichita State credit for all completed work. This program has been accredited by the American Medical Association.
ADMISSION REQUIREMENTS

Minimum requirements for students accepted for the program are a baccalaureate degree or three years of direct patient contact medical experience, or an equivalent combination of academic achievement and medical experience. Students are required to have taken college algebra, chemistry, and human anatomy and physiology before admission. Applicants must have a broad background and knowledge of the medical environment, medical practices and procedures in such areas as nursing, medical technology, physical therapy, or three years of responsible and progressive health care experience as a medical corpsman, nursing assistant or medical technician. The program staff will consider individual waivers to these requirements upon request.

Applicants must be accepted by the Admissions Committee of the Physician’s Assistant Program. The committee’s decision is based on the student’s previous education, medical experience and personal interviews. Applications must be completed by February 1 for the fall class.

CURRICULUM

The Physician’s Assistant Program curriculum consists of both didactic and clinical courses. The majority of the classroom courses are taught at the program facilities located at the Veterans Administration Center, while the clinical courses are taught by physicians in affiliated hospitals throughout the state.

Once admitted, students must take the following courses to meet the physician’s assistant professional requirements. Professional courses are available only to students in the program.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>HS 385, Health Care Team Concepts</td>
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<tr>
<td>HS 386, Clinical Anatomy</td>
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<tr>
<td>HS 389, Clinical Anatomy</td>
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<tr>
<td>HS 390, Clinical Physiology</td>
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<tr>
<td>HS 400, Clinical Pathophysiology</td>
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<tr>
<td>HS 421, Applied Clinical Pharmacology I</td>
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</tr>
<tr>
<td>HS 422, Applied Clinical Pharmacology II</td>
<td>3</td>
</tr>
<tr>
<td>PA 211, Assessment and Management of the Integument</td>
<td>2</td>
</tr>
<tr>
<td>PA 212, Assessment and Management of the Cardiovascular System</td>
<td>2</td>
</tr>
<tr>
<td>PA 213, Assessment and Management of the Pulmonary System</td>
<td>2</td>
</tr>
<tr>
<td>PA 214, Assessment and Management of the Gastro-Intestinal System</td>
<td>2</td>
</tr>
<tr>
<td>PA 215, Assessment and Management of the Kidney</td>
<td>1</td>
</tr>
<tr>
<td>PA 216, Assessment and Management of the Genito-Urinary System</td>
<td>2</td>
</tr>
<tr>
<td>PA 217, Assessment and Management of the Venereal Diseases</td>
<td>1</td>
</tr>
<tr>
<td>PA 218, Assessment and Management of Obstetrics and Gynecology</td>
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<tr>
<td>PA 219, Assessment and Management of the Eye</td>
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</tr>
<tr>
<td>PA 220, Assessment and Management of the Head and Neck</td>
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<tr>
<td>PA 221, Assessment and Management of the Nervous System</td>
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</tr>
<tr>
<td>PA 222, Assessment and Management of the Musculo-Skeletal System</td>
<td>2</td>
</tr>
<tr>
<td>PA 223, Assessment and Management of the Endocrine System</td>
<td>2</td>
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<tr>
<td>PA 410, Clinical Rotation in Medical-Inpatient Service</td>
<td>5</td>
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<tr>
<td>PA 414, Clinical Rotation in Emergency Room</td>
<td>5</td>
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</tbody>
</table>
PA 418, Clinical Rotation in Family Practice I .................................. 5
or
PA 419, Clinical Rotation in Primary Care I ....................................... 5
PA 422, Clinical Rotation in Internal Medicine .................................... 5
or
PA 412, Clinical Rotation in Surgery I .............................................. 5
PA 440, Clinical Preceptorship .......................................................... 6

Recommended Electives (20 hours)
PA 311, Clinical Rotation in Rehabilitation ......................................... 3
PA 312, Clinical Rotation in Public Health ......................................... 3
PA 313, Clinical Rotation in Dermatology ........................................ 3
PA 314, Clinical Rotation in Otorhinolaryngology ............................... 3
PA 413, Clinical Rotation in Obstetrics and Gynecology ........................ 5
PA 415, Clinical Rotation in Mental Health ...................................... 5
PA 417, Clinical Rotation in Admitting and Personnel Health Care ........... 5
PA 423, Clinical Rotation in Pediatrics ........................................... 5
PA 424, Clinical Rotation in Radiology ......................................... 1-5
PA 425, Clinical Rotation in Surgery II ......................................... 5
PA 426, Clinical Rotation in Family Practice II ................................... 5
PA 427, Clinical Rotation in Primary Care II .................................... 5

GRADUATION REQUIREMENTS
Students who meet the physician’s assistant curriculum will receive a certificate of completion. In addition, students may qualify for the Bachelor of Health Science with emphasis in physician’s assistant by completing the physician’s assistant curriculum and meeting all University graduation requirements with a minimum of 125 hours and a 2.00 grade point average.

Lower Division Courses

211. Assessment and Management of the Integument. (2). A combined theory, laboratory and clinical course dealing with the skin as a major organ. Special considerations include wound healing, burn management, tissue reactivity, cutaneous manifestations of systemic disease, specific diagnostic techniques with regard to assessment of dermatologic disorders and introduction to dermatological clinic through case presentations. H 19 211 0 1299

212. Assessment and Management of the Cardiovascular System. (2). A combined theory, laboratory and clinical course dealing with the cardiovascular system. Special considerations include pathophysiology of the principles of coronary care units and cardiopulmonary resuscitation, management of vascular diseases and cardiovascular emergencies, cardiac rehabilitation, and investigation of the resources of the American Heart Association. H 19 212 0 1299

213. Assessment and Management of the Pulmonary System. (2). A theory, laboratory and clinical course dealing with the respiratory system. Special considerations include pulmonary function testing including blood gases; respiratory therapy; management of the pulmonary cripple; special pulmonary problems of the newborn; epidemiology of pulmonary disease; management, convalescence and special problems of thoracic surgery; roentgenology of the chest; and resources of the American Lung Association. H 19 213 0 1299

214. Assessment and Management of the Gastro-Intestinal System. (2). A theory, laboratory and clinical course dealing with the gastro-intestinal (GI) system. Special considerations include assessment of diseases of organs in the GI tract, special problems of the newborn, relationships of the autonomic nervous system to GI symptomatology, roentgenology of the GI tract, GI manifestations of psychic disturbances and demonstration of special diagnostic instruments. H 19 214 0 1299

215. Assessment and Management of the Kidney. (1). A theory and clinical course dealing with the kidney as an organ. Special considerations include fluid and elec-
216. Assessment and Management of the Genito-Urinary System. (2). A theory, laboratory and clinical course dealing with the genito-urinary (GU) system. Special considerations include urinary tract infections, tumors of GU tract, prostatism, the neurogenic bladder, congenital defects, infertility in the male, trauma of the GU tract, special diagnostic procedures, instrumentation and urinary calculi. H 19 216 0 1299

217. Assessment and Management of the Venereal Diseases. (1). A theory, laboratory and clinical course dealing with the five most common venereal diseases. Special considerations include diagnostic procedures, epidemiology and control; sociological and mental health factors; management and treatment plans; and introduction to the venereal disease clinic as a preparation for community health clinical rotation. H 19 217 0 1299

218. Assessment and Management of Obstetrics and Gynecology. (2). A theory, laboratory and clinical course dealing with obstetrics and gynecology. Special considerations include the menstrual cycle, pregnancy, gynecologic diseases, techniques of normal delivery, obstetrical emergencies, abortions, family planning and infertility. H 19 218 0 1299

219. Assessment and Management of the Eye. (1). A combined theory, laboratory and clinical course dealing with the eye as an organ. Special considerations include use of the ophthalmoscope; tonometry; visual fields; etiology, diagnosis and management of ophthalmic diseases; and ophthalmic manifestations of systemic diseases. H 19 219 0 1299

220. Assessment and Management of the Head and Neck. (2). A theory, laboratory and clinical course dealing with the ear, nose and throat (ENT) as a system. Special considerations include congenital defects; use of ENT instruments; etiology and management of diseases of the nose, throat and ear; tracheostomy; tumors of the head and neck; emergencies of the head and neck; esophageal speech; audiometry; and the resources available through the Kansas Crippled Children’s Commission. H 19 220 0 1299

221. Assessment and Management of the Nervous System. (2). A theory, laboratory and clinical course dealing with both the central and peripheral nervous systems. Special considerations include special diagnostic procedures, neurological emergencies, head trauma, cerebrovascular diseases and stroke management. H 19 221 0 1299

222. Assessment and Management of the Musculo-Skeletal System. (2). A theory, laboratory and clinical course dealing with the musculo-skeletal system. Special considerations include congenital anomalies; orthopedic emergencies; traction, splinting and casting; the common arthritides; and rehabilitation. H 19 222 0 1299

223. Assessment and Management of the Endocrine System. (2). A theory, laboratory and clinical course dealing with the endocrine system. Special considerations include diseases of the pituitary gland and hypothalamus; diseases of the thyroid, parathyroid and adrenal gland; diabetes mellitus; diagnostic procedures; special diets; endocrine emergencies; and the treatment of endocrine diseases. H 19 223 0 1299

Upper Division Courses

311. Clinical Rotation in Rehabilitation. (3). A four-week clinical experience in which students participate in the care and rehabilitation of a variety of patients. During this rotation students are involved in learning the techniques of occupational therapy and physical therapy. Time is also spent with specialized physicians in the area of patient rehabilitation and stroke management. H 19 311 1 1299

312. Clinical Rotation in Public Health. (3). A four-week clinical experience in which students are introduced to the resources available at a metropolitan public health department. Special emphasis is placed on communicable disease control. Other services such as sanitation, social work and visiting nurses are also encountered. H 19 312 1 1214

313. Clinical Rotation in Dermatology. (3). A four-week clinical experience in which students participate in the care of dermatologic patients in a variety of settings. Students are allowed to participate in specialized diagnostic testing, such as KOH preps, tissue scrapings and skin biopsies. The students become familiar with therapeutic regimens, their indications, availability, reliability and limitations in the treatment of dermatologic disease. H 19 313 1 1299

314. Clinical Rotation in Otorhinolaryngology. (3). A three-week clinical experience in which students participate in the care of the patient with ear, nose and
410. **Clinical Rotation in Medical In-Patient Service.** (5). A six-week clinical experience in which students participate in the care of the hospitalized patient. During this rotation, students are involved in admitting, taking histories and performing physical examinations, making ward rounds, participating in staff conferences, recording patients' progress notes, formulating treatment plans, performing special procedures, diagnostic testing and preparing discharge summaries. *H 19 410 1 1299*

411. **Clinical Rotation in Surgery I.** (5). A six-week clinical experience in which students participate in the care of the surgical patient. During this rotation, students are involved in admitting, taking histories and performing physical examinations, diagnostic procedures and preoperative procedures, and assisting in the operating room and with the immediate postoperative care and convalescence of the patient. *H 19 412 1 1299*

412. **Clinical Rotation in Obstetrics and Gynecology.** (5). A six-week clinical experience in which students participate in the care of obstetric and gynecology patients. During this rotation, students are involved in patient assessment, diagnostic procedures and treatment of the gynecology patient. Students follow obstetric patients through all stages of pregnancy, labor, delivery and postpartum care. Students also counsel patients in family planning and contraception. *H 19 413 1 1299*

413. **Clinical Rotation in Emergency Room.** (5). A six-week clinical experience in which students participate in the care of emergency patients as encountered in the emergency room of a metropolitan hospital. Students are involved in patient history and physical examinations, assessment of patient condition, triage, diagnostic testing and emergency procedures. *H 19 414 1 1299*

414. **Clinical Rotation in Mental Health.** (5). A six-week clinical experience in which students participate in the care of patients as encountered in a metropolitan mental health clinic. Students are involved in data collection, assessment and the formulation of treatment plans for patients with a variety of psychic or emotional disturbances. Special emphasis is placed on suicide prevention. *H 19 415 1 1299*

417. **Clinical Rotation in Admitting and Personnel Health Care.** (5). A six-week clinical experience in which students participate in the care of patients seeking hospitalization. In addition, students study employees' health service. Students are involved in history and physical examination, assessment and determinations as to whether hospitalization is needed. Students also have the opportunity to do annual examinations of employees as well as participating in employee sick call situations. *H 19 417 1 1299*

418. **Clinical Rotation in Family Practice I.** (5). A six-week clinical experience in which students participate in the care of a wide variety of patients, such as those encountered in a family practice residency program. Students are involved in physical evaluation assignments, diagnostic procedures and treatment of these patients. Students also observe the diversity and complexity of the role of the family practitioner. *H 19 418 1 1299*

419. **Clinical Rotation in Primary Care I.** (5). A six-week clinical experience in which students participate in the care of a wide variety of patients, such as those encountered in a primary-care physician's practice in a rural area. Students are involved in physical evaluation, assessment, diagnostic procedures and treatments of these patients. Students also observe the diversity and complexity of the role of the primary-care physician in rural areas. *H 19 419 1 1299*

422. **Clinical Rotation in Internal Medicine.** (5). A six-week clinical experience in which students participate in the care of the medical adult patient in both an inpatient and outpatient environment. During this rotation the student is involved in obtaining a detailed data base, performing diagnostic and therapeutic procedures, counseling the acute and chronically ill patient in the disease process and therapy. Students also observe and participate in the daily practice and problems experienced by the internal medicine physician. *H 19 422 1 1299*

423. **Clinical Rotation in Pediatrics.** (5). A six-week clinical experience in which students participate in the care of the pediatric patient. During this rotation the student is involved in physical assessment, performing diagnostic procedures and treatment of the pediatric patient. The
student participates in the daily practice of a pediatrician and is involved in counseling patients and parents in all aspects of pediatric medicine. Special emphasis is placed upon immunization, preventative medicine and developmental milestones.

424. Clinical Rotation in Radiology. (1-5). A six-week clinical rotation experience in which the students participate in all aspects of radiology as it pertains to patient care. During this rotation the student is involved in taking routine x-rays, fluoroscopy and interpretation. The student has an opportunity to correlate physical and historical findings to radiographic results. Students are also involved in the role of the radiologist in urban and rural areas. H 19 423 1 1299

425. Clinical Rotation in Surgery II. (5). A six-week advanced clinical experience in which students participate in the care of the surgical patient. During this rotation students improve their skills in admitting, taking history, and performing physical examinations, and diagnostic procedures. Students assist in the operating room and participate in the surgical subspecialties. Students also assist in preoperative and postoperative care of the patient. Prerequisite: department chairperson’s consent. H 19 424 1 1299

426. Clinical Rotation in Family Practice II. (5). A six-week advanced clinical experience in which students participate in the care of a wide variety of patients in family practice. Students have the opportunity to improve their skills in physical examination, diagnostic procedures and development of a plan of care and treatment. Students also observe the diversity and complexity of the role of the family practitioner. Prerequisite: department chairperson’s consent. H 19 425 1 1299

427. Clinical Rotation in Primary Care II. (5). A six-week advanced clinical experience in which students participate in the care of a wide variety of patients in a primary-care physician’s practice in a rural area. Students have the opportunity to improve their skills in physical evaluation, diagnostic procedures, development of plan of care and treatment. Students also observe the diversity and complexity of the primary physician in rural areas. Prerequisite: department chairperson’s consent. H 19 426 1 1299

440. Clinical Preceptorship. (6). An eight-week course designed as a culmination of the student’s clinical training. Students are placed with a primary-care physician to enable them to function as members of the health-care team in a setting similar to that which would be encountered by the graduate physician’s assistant. H 19 440 1 1299

Respiratory Therapy

The baccalaureate program in respiratory therapy through a Bachelor of Health Science is designed for the individual currently enrolled in the Wichita State respiratory therapy associate degree program or graduates of other accredited respiratory therapy programs. This degree provides opportunities for respiratory therapists to expand their role in education, administration or in the clinical sciences.

CURRICULUM

The Bachelor of Health Science program requires completion of a basic program in respiratory therapy plus the general requirements of the University. (The basic program is given later in the section under the heading Associate of Science Programs—Respiratory Therapy.) It is a three-track option program providing three interrelated courses of study. Students may select one of the following options: (1) respiratory therapy education, (2) administration and supervision, or (3) advanced clinical work. Courses taken in these options are offered by the College of Health Related Professions, the College of Business Administration, College of Education and Fairmount College of Liberal Arts and
Sciences. Students may also take a combination of the two options. A contract for graduation must be completed one semester prior to their expected graduation date.

**Upper Division Courses**

301. Seminar I. (2). Discussion of departmental operations, such as budgets, in-service education, audiovisuals, equipment evaluation and new procedures. Two 30-minute oral reports must be given by each student as a partial requirement for this course. Prerequisite: RT 122. H 13 301 9 1215

302. Seminar II. (2). Discussion of advanced skills and techniques involving critical-care patients and preparation of case studies. Two 30-minute case studies must be completed by each student as a partial requirement for this course. Prerequisite: departmental consent. H 13 302 0 1215

320. Clinical Projects. (1-3). Provides an opportunity for the second-year student, on an individual basis, to select a topic for independent investigation. (Elective.) Repeatable to 6 hours. H 13 320 4 1215

325. Respiratory Physiology. (4). 3R; 3L. Comprehensive review of respiratory and cardiovascular physiology as it applies to respiratory therapy. Emphasis is on pulmonary function, blood gas analysis and acid-base analysis as related to disease. Laboratory involves proper techniques for pulmonary function studies and blood gas analysis on various pieces of equipment. Prerequisite: RT 122. H 13 325 0 1215

326. Clinical Respiratory Pathology. (3). Comprehensive presentation of clinical pathology of the respiratory system in adult, pediatric and newborn patients. The clinical progress of respiratory disease from onset of symptoms to acute or chronic conditions. Partially taught by practicing physicians. Prerequisite: RT 122. H 13 326 0 1215

**ASSOCIATE OF SCIENCE PROGRAMS**

The College of Health Related Professions offers the Associate of Science in dental hygiene and respiratory therapy.

**Dental Hygiene**

The associate program in dental hygiene provides students with a knowledge of the social, dental and clinical sciences and competencies needed by the dental hygienist in contributing to the attainment of good oral health for all people. Upon completion of the five-semester program (including one summer), students are eligible to take the national, regional and state examinations for licensure as dental hygienists. The Wichita State program is accredited by the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs.
PROFESSIONAL CURRICULUM

Admission. In addition to fulfilling all requirements for admission to the University, students wishing to enroll in the dental hygiene program must apply for and obtain approval of the Admissions Committee of the Department of Dental Hygiene. Acceptance into the College of Health Related Professions does not guarantee admission into the dental hygiene department. Applications must be on file in the dental hygiene office no later than March 1. Persons interested in the dental hygiene program should direct their inquiries to the Chairperson of the Department of Dental Hygiene, Wichita State University, Wichita, KS 67208.

To qualify for admission to the dental hygiene program, applicants must be high school graduates or have passed the General Education Development (GED) test and have a minimum of one semester of college or a total of 15 semester hours. Recommended high school courses are mathematics, biology, chemistry and physical science.

Students must meet the following admission criteria. They must:

1. Have taken subjects relevant to health professions (science, chemistry, physiology, biology and so on)
2. Maintain a minimum grade point average of 2.00 in all high school and college work
3. Have satisfactory results on the American College Test
4. Have taken the Dental Hygiene Aptitude Test, administered nationally five times a year
5. Complete Wichita State and College of Health Related Professions general admission requirements.

Students must also be personally interviewed and approved by the department’s committee on admissions. The interview is used to determine a student’s motivation and interest, neatness and cleanliness, general understanding of the scope of the dental hygiene program and of the dental hygiene profession, and ability to communicate and listen.

If possible, students should obtain experience or observe in a dental office prior to or concomitant with their application to the dental hygiene program.

Curriculum. The following courses, totaling 79 to 83 hours, must be taken by dental hygiene students.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Eng. 101, College English I</td>
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<tr>
<td>Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Division A—Humanities and Fine Arts (3 hours)</td>
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<tr>
<td>Minimum of any 3 hours</td>
<td>3</td>
</tr>
<tr>
<td>Division B—Social and Behavioral Sciences (6 hours)</td>
<td></td>
</tr>
<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 211, Introduction to Sociology</td>
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</tbody>
</table>


Division C—Natural Sciences and Mathematics (15-19 hours)

Biol. 100G, Principles of Biology (if no previous or adequate high school biology) ................................. 4
Biol. 120, Introduction to Microbiology ................................................. 4
Biol. 225, Human Anatomy ......................................................... 3
Biol. 226, Elementary Human Physiology ............................................. 3
Chem. 103, General Chemistry ............................................................. 5

Division D—Professional Studies (49 hours)

HAE 111, Introduction to Community Health ........................................... 3
DH 290, Embryology, Histology and Oral Anatomy ................................... 3
DH 101, Preclinical Dental Hygiene ....................................................... 5
DH 102, Clinical Dental Hygiene I ......................................................... 3
DH 104, Clinical Radiology .................................................................. 2
DH 107, Dental Materials .................................................................... 3
DH 206, General and Oral Pathology ....................................................... 3
DH 302, Clinical Dental Hygiene II ......................................................... 3
DH 303, Clinical Dental Hygiene III ....................................................... 4
DH 304, Clinical Dental Hygiene IV ......................................................... 5
DH 305, Periodontics .......................................................................... 3
DH 307, Ethics and Jurisprudence .......................................................... 2
DH 309, Community Dental Hygiene ..................................................... 3
DH 310, Head and Neck Anatomy ............................................................ 2
HS 301, Clinical Pharmacology .............................................................. 2
HS 331, Principles of Dietetics and Nutrition .......................................... 3

* These are prerequisite courses suggested to be taken prior to the professional curriculum.

SPECIAL REQUIREMENTS

Students are required to purchase uniforms and instruments needed during clinical learning experiences. Students are also required to purchase professional liability insurance in the amount of not less than $200,000/600,000. This must be done on a yearly basis. In addition, students are required to provide their own transportation to and from the health care agencies used for clinical experiences.

Information related to special requirements is available to students in the office of the Department of Dental Hygiene, Wichita State University, Wichita, Kansas 67208.

Lower Division Courses

101. Preclinical Dental Hygiene. (5). 3R; 6L. A presentation of the basic philosophy of dentistry and dental hygiene. Consideration is given to measures that can be employed to prevent oral disease and promote dental health. Laboratory instruction is given in instrumentation for removal of deposits from the teeth. Offered only in the fall semester. Prerequisite: departmental consent. H 12 101 0 1203

102. Clinical Dental Hygiene I. (3). 1R; 6L. Initial instruction of typical emergency medical problems that might be encountered in the dental office. Here the principles taught in the laboratory are applied to both children and adults. Emphasis is placed on instrument techniques and overall treatment of the patient. Lectures and demonstrations are designed to augment the student's clinical practice. Offered only in the spring semester. Prerequisite: departmental consent. H 12 102 0 1203

104. Clinical Radiology. (2). 1R; 3L. A presentation of the theory and practice of exposing, processing and mounting X-ray films. The laboratory periods are used to gain proficiency in X-ray techniques. Care of the equipment is stressed. Prerequisite: departmental consent. H 12 104 0 1203

107. Dental Materials. (3). 1R; 3L. Fun-
damental instruction in practical laboratory phases of modern technique and the manipulation of materials and equipment used in dental practice. Offered only in the spring semester. Prerequisite: departmental consent. H 12 107 0 1203

206. General and Oral Pathology. (3). A survey of general pathology of tissues and organs of human anatomy. Discussions are held on dental pathology of the teeth, dental pulp and oral tissues. A consideration of the signs, symptoms and manifestations of oral lesions is accomplished through lectures and visual aids. Offered only in the fall semester. Prerequisite: departmental consent. H 12 206 0 1203

290. Embryology, Histology and Oral Anatomy. (3). A study of the development and microscopic anatomy of the elementary tissues and organs. Explanation of tooth development, eruption, arrangement, function, morphology and characteristics. Prerequisite: departmental consent. H 12 290 0 1203

Upper Division Courses *

302. Clinical Dental Hygiene II. (3). IR; 6L. Continued development of proficiency or clinical techniques emphasizing preventive treatment and complete patient evaluation. Class meets during Summer Session. Prerequisite: departmental consent. H 12 302 0 1203

303. Clinical Dental Hygiene III. (4). IR; 9L. During this semester, the student has an opportunity to utilize variations in scaling techniques and instruments. Technique seminars are scheduled so that instructors and students can discuss the rationale behind particular techniques, instrument selection and similar topics. Students complete a patient education notebook, designed to inform patients of cause of dental disease, its prevention and/or corrective measures that can be implemented. Offered only in the fall semester. Prerequisite: departmental consent. H 12 303 0 1203

304. Clinical Dental Hygiene IV. (5). IR; 12L. During the final semester of clinical dental hygiene, students are expected to utilize information and skills learned in previous courses and to continue to demonstrate proficiency and increase their level of competency in all objectives from Clinical Dental Hygiene I, II and III. Emphasis is placed on providing treatment for an increased number of patients. Seminars will include information about dental specialties and explanation of the rationale for treatment prescribed by the dentist. Offered only in the spring semester. Prerequisite: departmental consent. H 12 304 0 1203

305. Periodontics for the Dental Hygienist. (3). Lecture and visual aid presentation on the etiology and classification of periodontal disease. A study of the treatment of the periodontally involved patient with further demonstration of advanced scaling and root planing procedures and local anesthesia as it relates to the periodontal patient. Prerequisite: departmental consent. H 12 305 0 1203

307. Ethics and Jurisprudence. (2). A survey of laws governing the practice of dentistry and dental hygiene; types of professional work for which students may qualify; the economics and ethics of the profession; the essentials of banking, bookkeeping, office and personnel management and patient records. Offered only in the spring semester. Prerequisite: departmental consent. H 12 307 0 1203

309. Community Dental Hygiene. (3). IR; 2L. An introduction to the foundations of dental health in the community, health concepts, epidemiology, biostatistics, health care systems and organization of community services with fieldwork in applying the learned concepts. Prerequisite: departmental consent. H 12 309 0 1203

310. Head and Neck Anatomy. (2). An in-depth study of the landmarks, muscles, nerves, vascular supply, etc., of the head and neck region. Prerequisite: departmental consent. H 12 310 0 0412

Respiratory Therapy

Respiratory therapy is an allied health specialty employed in the treatment, management, control and care of patients with deficiencies and abnormalities associated with the respiratory system.

* Other upper division courses in dental hygiene are given in the dental hygiene baccalaureate program section of the Catalog.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 4L means 3 hours of lecture and 4 hours of lab.
It encompasses the therapeutic use of medical gases, air and oxygen administering apparatus; environmental control systems; humidification and aerosols; drugs and medications; ventilatory assistance and ventilatory control; postural drainage; chest physiotherapy and breathing exercise; respiration rehabilitation; assistance with cardiopulmonary resuscitation; and maintenance of natural, artificial and mechanical airways. Specific testing techniques can be employed in respiratory therapy to assist in diagnosis, monitoring, treatment and research, including measurement of ventilatory volumes, pressure and flows, and blood gas analysis.

Since respiratory therapy as a special health area is broadly defined and parallels closely other professional areas, it is important to realize that such therapy does interrelate with patient care performed by nurses, physical therapists and other technologists.

The Wichita State Department of Respiratory Therapy has an American Medical Association-approved program for the education of respiratory therapists. Following completion of the professional program, students meet the educational requirements for examination by the National Board for Respiratory Therapy for RRT registration.

PREPROFESSIONAL CURRICULUM

The respiratory therapy curriculum, totaling 72 hours, consists of both classroom and clinical courses. The majority of the didactic courses are taught on the Wichita State campus, while the clinical courses are taught in affiliated hospitals.

The following courses should be taken by respiratory therapy students desiring an Associate of Science in respiratory therapy.

<table>
<thead>
<tr>
<th>Recommended Courses</th>
<th>Hrs.</th>
<th>Semester Sequence</th>
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<tbody>
<tr>
<td><strong>Communications (6 hours)</strong></td>
<td></td>
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</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
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<td><strong>Division A—Humanities and Fine Arts (3 hours)</strong></td>
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<tr>
<td>Psych. 111, General Psychology</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Division C—Natural Sciences and Mathematics (18 hours)</strong></td>
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</tr>
<tr>
<td>Biol. 120, Introduction to Microbiology</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 225, Human Anatomy</td>
<td>3</td>
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<tr>
<td>Biol. 226, Elementary Human Physiology</td>
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</tr>
<tr>
<td>Chem. 103, General Chemistry</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Math. 111, College Algebra</td>
<td>3</td>
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</tbody>
</table>

ADMISSION TO THE PROFESSIONAL CURRICULUM

Students submitting application to the professional program are eligible after they have met the Wichita State and College of Health Related
Professions general admission requirements with a minimum grade of C in anatomy and physiology, microbiology and chemistry and have a grade point average of at least 2.00. Admittance to the program must be requested through an application submitted to the Department of Respiratory Therapy prior to April 1 for the fall semester.

**PROFESSIONAL CURRICULUM**

The following courses are required in the professional curriculum.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Division D—Professional Studies (42-44 hours)</th>
<th>Recommended Semester Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT 111, Introduction to Respiratory Therapy</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>RT 112, Respiratory Therapy Procedures</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>RT 122, Introduction to Clinical Procedures</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>RT 202, Respiratory Therapy Practicum I</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>RT 203, Respiratory Therapy Practicum II</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>HS 230, Clinical Anatomy of Thorax</td>
<td>1</td>
<td>4 or 5</td>
</tr>
<tr>
<td>HS 301, Clinical Pharmacology</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>RT 301, Seminar I</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>RT 302, Seminar II</td>
<td>2</td>
<td>5 or 6</td>
</tr>
<tr>
<td>RT 310, Respiratory Therapy Practicum III</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>RT 320, Clinical Projects</td>
<td>1-3</td>
<td>5 or 6</td>
</tr>
<tr>
<td>RT 325, Respiratory Physiology</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>RT 326, Clinical Respiratory Pathology</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

*Admission into the professional program is required before students can enroll in professional courses.

**SPECIAL REQUIREMENTS**

Students are required to purchase uniforms and other apparel needed during clinical learning experiences. Students are also required to purchase professional liability insurance in the amount of not less than $100,000/300,000. This must be done on a yearly basis. In addition, students are required to provide their own transportation to and from the health care agencies used for clinical experiences.

Information related to special requirements is available to students in the Department of Respiratory Therapy, Wichita State University, Wichita, Kansas 67208.

**Lower Division Courses**

101. Overview of Respiratory Therapy. (1). An introductory course. H 13 101 0 1215

111. Introduction to Respiratory Therapy. (2). 1R; 3L. An introduction to respiratory therapy: its history and purpose, as well as the basic skills of a respiratory therapist that can be developed in a skills laboratory. Included are medical gas therapy, humidification and aerosol therapy, and a review of basic functional anatomy and physiology of the respiratory system. Prerequisite: departmental consent. H 13 111 0 1215

112. Respiratory Therapy Procedures. (4). 3R; 3L. A comprehensive development of skills with equipment used in respiratory management, with emphasis upon respiratory failure. Familiarity with many different respiratory devices and their application to pathological conditions is developed with the use of lung analogs in a skills laboratory. Monitoring equipment and an introduction to monitoring of ventilatory patients are also included. Prerequisite: RT 111 or departmental consent. H 13 112 0 1215
122. Introduction to Clinical Procedures. (3). IR; 4L. The student's first introduction to the clinical environment for observation and practice of the therapeutic skills that are required of the therapist. An introduction to cardiopulmonary resuscitation and pulmonary functions is included. Prerequisite: RT 112 or departmental consent. H 13 122 0 1215

202. Respiratory Therapy Practicum I. (5). 20L. The student acquires practical experience in affiliated health care agencies. Course stresses therapy in noncritical areas, as well as overall departmental operations. Prerequisite: RT 122. H 13 202 0 1215

203. Respiratory Therapy Practicum II. (5). 20L. A continuation of RT 202, but with greater emphasis on the critically ill and diagnostic areas of respiratory therapy. Prerequisite: RT 202. H 13 203 0 1215

Upper Division Courses *

301. Seminar I. (2). Prerequisite: RT 122. H 13 301 9 1215

302. Seminar II. (2). Prerequisite: departmental consent. H 13 302 0 1215

310. Respiratory Therapy Practicum III. (8). 2R; 38L. Students practice managerial and advanced therapeutic techniques in the hospital environment. Two hours per week are devoted to case histories and selected physician topics. Prerequisite: RT 203. H 13 310 0 1215

320. Clinical Projects. (1-3). H 13 320 4 1215

325. Respiratory Physiology. (4). 3R; 3L. Prerequisite: RT 122. H 13 325 0 1215

326. Clinical Respiratory Pathology. (3). Prerequisite: RT 122. H 13 326 0 1215

SPECIAL CERTIFICATE PROGRAMS

The College of Health Related Professions offers certificate programs in basic emergency care training, nurse clinician and physician's assistant.

Basic Emergency Medical Care Training

A certificate in basic emergency medical care training is offered by the Department of Health Administration and Education. The certificate is obtained with successful completion of HAE 110, described under the heading Service Departments—Health Administration and Education.

Students who would like to enroll in this course must fulfill all requirements for admission to Wichita State University and be at least 18 years old. An application to the Emergency Medical Training Admissions Committee must also be completed. HAE 110 classroom instruction encompasses anatomy and physiology, pathophysiology, emergency recognition, and care of medical emergencies and trauma-related injuries. In addition, students spend 10 hours of in-hospital observation in such areas as the emergency room, surgery, critical care units, and the obstetric and psychiatric departments. A simulated automobile accident provides students with field experience in auto extrication. Successful completion of the 5-hour course meets the educational prerequisite for taking the state and/or national registry examinations for emergency medical/technicians.

* For other upper division courses in respiratory therapy and for complete course descriptions, see the respiratory therapy baccalaureate program section of the Catalog.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, IR; 3L means 1 hour of lecture and 3 hours of lab.
Nurse Clinician/Practitioner

The nurse clinician/practitioner program is designed to involve registered professional nurses in a formal learning experience, focused upon the biopsychosocial assessment of pediatric and adult clients/patients and families and upon the principles of clinical management of such clients/patients. The program is divided into two phases: (1) 16 weeks of core study and selected clinical experiences and (2) 9 months of clinical preceptorship off campus with periodic seminars on the Wichita State campus. A certificate of completion is awarded upon satisfactory completion of all required courses during both phases of the program. Graduates of the program are eligible to take National Certification Exams for Nurse Practitioners given by the American Nurses Association.

ACADEMIC REQUIREMENTS

Admission. In addition to fulfilling all requirements for admission to Wichita State and the College of Health Related Professions, students wishing to enroll in the nurse clinician/practitioner program must apply for, and obtain approval of the Admissions Committee of the Department of Nurse Clinician. Applicants to this program must be registered nurses with an associate degree, diploma or bachelor’s degree. Students must submit a photocopy of their current Kansas license to practice as a registered professional nurse with a minimum of one year professional nursing experience, official records from their school of nursing and transcripts of all colleges attended. Students recommend a licensed physician to serve, by contract, as a preceptor during the 9-month preceptorship. Students must be admitted to Wichita State and apply for undergraduate or graduate credit, as appropriate, and must meet the requirements accordingly. Students desiring to apply this credit toward a degree in nursing are highly encouraged to discuss this with the specific school of nursing prior to admission to the nurse clinician/practitioner program. Spring admission deadline is September 1, and the fall admission deadline is March 1. Once admitted, students must take the following courses to receive a certificate of satisfactory completion.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hrs.</th>
<th>Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC 505, Clinical Pathophysiology and Management</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>NC 515, Ecology of Primary Care</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>NC 525, Health Care Systems Analysis</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>NC 535, Clinical Assessment</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>NC 545, Nurse Clinician Practicum I</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>NC 555, Nurse Clinician Practicum II</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>
Elective
NC 540, Directed Studies in Expanded Role ............ 1-4 2 or 3
NC 550, Special Topics ..................................... 1-4 2 or 3
NC 560, Health Assessment Methods .................... 4 2 or 3
NC 565, Concepts of Quality Assurance in Health Care 3 2 or 3

Curriculum. The nurse clinician/practitioner curriculum (26 credit hours) consists of core and preceptorship phases distributed throughout the year, with participation in periodic seminars required. Students may enroll in HS 521, Independent Study, for 1 to 6 hours of credit, supervised by the nurse clinician department, by arrangement during the preceptorship. Additional information may be obtained by writing: Chairperson, Department of Nurse Clinician, Wichita State University, Wichita, KS 67208.

SPECIAL REQUIREMENTS
Nurse clinician/practitioner students are required to show proof of professional liability insurance coverage in amounts of not less than $100,000/300,000. In addition, students are required to provide their own transportation to health care facilities affiliated with the program.

GRADUATION REQUIREMENTS
Students must maintain a minimum 2.00 grade point average in all required courses in the core and preceptorship phases of the curriculum and show evidence of competence in expanded role functions.

PROGRESSION
To progress in the professional sequence, a grade point average of 2.00 or better must be earned in all professional courses. Students who receive a D or F in any professional course may not progress in the professional sequence. If their overall academic record remains at 2.00 or below and they desire to continue in the program, they may petition the Committee on Admissions and Progression in the department.

Courses for
Graduate/Undergraduate Credit

505. Clinical Pathophysiology and Management. (5). A lecture and discussion presentation designed for primary care nurse clinicians in the area of disease mechanisms: pathophysiology, etiology and therapeutic management. Prerequisite: departmental consent. H 23 505 0 1201

515. Ecology of Primary Care. (3). A lecture series designed to discuss applied knowledge of principles of human behavior. Psychosocial components of client/patient management are introduced through the study of wellness-illness behaviors in relation to cultural forces and of emotional stresses as these affect the client/patient, family and health team members. Prerequisite: departmental consent. H 23 515 0 1201

525. Health Care Systems Analysis. (3). A seminar and discussion course designed to prepare primary-care nurse clinicians to enter the preceptorship by analyzing role identification and the relationship be-
tween the nurse clinician and members of
the health team in the delivery of health
care. Focus is on continuity and compre-
siveness of health care as the goals of
role modification. Prerequisite: depart-
mental consent. H 23 525 0 1201

535. Clinical Assessment. (5). 3R; 2L. A
course utilizing lecture, seminar, demon-
stration, clinical lab and clinical experi-
ence sessions that prepare the primary-
care nurse clinician to enter the pre-
ceptoryship by providing basic knowledge
and skills in clinical assessment and man-
gement of clients/patients. Methods of
history taking and interview techniques,
physical assessment, multiphasic screen-
ing, sources of clinical data, special pro-
dedures, developmental assessment and
aspects of well-child care are explored.
The assumption of responsibility for the
in-depth care of multiple-problem
clients/patients is explained. Prerequisite:
departmental consent. H 23 535 0 1201

540. Directed Study in Expanded Role
Nursing. (1-4). A guided-design course
contracted with the student composed of
objectives, description of study, method,
anticipated results and selected resources.
Results include a scholarly description of
study with critique of relevancy to ex-
panded role nursing. Prerequisites: NC
505, 515, 525, 535 or departmental con-
sent. H 23 540 0 1201

545. Nurse Clinician Practicum I. (6). 1R;
5L. A course designed for clinical appli-
cation of theoretical context identified as
related functions for expanded role nurs-
ing. The practicum is designed for pri-
mary-care settings to meet the require-
ments of expanded role program and to
receive a certificate of completion. Em-
phasis is placed on history-taking skills
and physical and psychosocial assess-
ment. Prerequisites: departmental con-
sent, physician preceptor, NC 505, 515,
525 and 535. H 23 545 0 1201

550. Special Topics. (1-4). Specialized in-
dividual or group study of specific topics
relevant to the nurse practitioner role, with
adaptations made to relate to a student’s
individual interests and practice areas,
e.g., advanced clinical assessment, prob-
lems in pathophysiology, etc. Prerequi-
ts: NC 505, 515, 525, 535 or depart-
mental consent. H 23 550 0 1201

555. Nurse Clinician Practicum II. (6).
1R; 5L. A clinical application course de-
signed to enhance problem-solving skills
of nurse clinician preceptors in client/pa-
tient management situations in their pre-
ceptoryship setting. Emphasis is on case
presentations and analysis of the assess-
ment, planning, implementation and eval-
uation. Phases of health care delivery with
modification of the plan of care are also
presented. Prerequisites: departmental
consent, physician preceptor, NC 505,
515, 525, 535 and 545. H 23 555 0 1201

560. Health Assessment Methods. (4). 3R;
2L. A classroom and practice lab course
designed to increase the health care pro-
cvider’s ability to perform basic biopsy-
chosocial assessments upon clients repre-
senting the full life span. Emphasis is
placed upon normal aspects, but stress
factors are also given consideration. Open
to nonmajors. Prerequisite: departmental
consent. H 23 560 2 1201

565. Concepts of Quality Assurance in
Health Care. (3). 3R; 2L. Cross-listed as
HAE 565. Course focuses upon current
social concerns with assessing quality of
health care and appropriate utilization of
activities and resources. Open to nonma-
jors. Prerequisites: NC 505, 515, 535, 545
or departmental consent. H 23 565 0 1201

Physician’s Assistant

The Physician’s Assistant Program is a 24-month program designed to
train Type A primary care physician’s assistants. As defined by the
National Academy of Sciences, the physician’s assistant “is a skilled
person qualified by academic and practical training to provide patient
services under the supervision and direction of a licensed physician
who is responsible for the performance of that assistant.” All students
completing the two-year course of study receive a Program Certificate

The above abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example,
1R; 2L means 1 hour of lecture and 2 hours of lab.
of Completion. Students who have completed all University require-
ments in addition to physician's assistant requirements, receive the
Bachelor of Health Science.

SERVICE DEPARTMENTS

Within the College of Health Related Professions there are two service
departments, Health Administration and Education and Health
Science.

Health Administration and Education

The Department of Health Administration and Education, in addition
to providing bachelor's programs in health care administration and
medical record administration, is responsible for providing public and
community health education courses required by professional pro-
grams within the College of Health Related Professions. In addition,
the department conducts consumer health education programs and, in
cooperation with the Wichita State Division of Continuing Education,
coordinates continuing education for health professionals. These pro-
grams are usually held in cooperation with other departments within
the College of Health Related Professions and community agencies.

Lower Division Courses

110. Basic Emergency Medical Care
Training. (5). 4R; 2L. Principles of basic
emergency medical care are identified.
Classroom instruction includes anatomy,
physiology, and emergency recognition
and care of medical emergencies and
trauma-related injuries. Practicum and
discussion provide the opportunity to
apply these principles. Students also
spend 10 hours of in-hospital observation.
Prerequisite: departmental or instructor's
consent. H 22 110 0 1201

111. Introduction to Community Health.
(3). This course concerns itself with mod-
eran man and his effort to achieve harmony
within the community and an analysis of
man's inner and outer ecosystems as they
relate to contemporary health issues. H 22
111 0 1201

Upper Division Courses

An introduction to the foundations of
culture, biostatistics, epidemiology,
ecology, community organizations and or-
ganization of health services. Prerequisite:
departmental consent. H 22 410 0 1214

440. Health Care Administration Practi-
cum. (6). 40P. Prerequisite: senior stand-
ing or departmental consent. H 21 440 2
1202 *

490. Independent Study in Health Care
Administration. (1-4). Prerequisite: de-
partmental consent. H 21 490 3 1202 *

Courses for
Graduate/Undergraduate Credit

501. Health Education Curriculum De-
velopment. (3). A course designed to assist
health professionals in constructing health
science curricula. Emphasis is given to
identifying various curriculum models and
applying educational principles, writing
behavioral objectives and the acquisi-
tion of supplementary materials. Special
emphasis is given to program develop-
ment in school, community and patient

* For complete course descriptions see Health Care Administration Program in the Catalog.
education settings. Prerequisite: junior, senior or graduate standing in one of the professional programs or instructor's consent. H 22 501 0 1201

503. Organization and Administration of the Health Care System. (3). Cross-listed as Geron. 503. Prerequisite: departmental consent. H 15 503 0 1201 *

504. Health Economics. (3). Cross-listed as Econ. 665. Prerequisite: HAE 503 or Econ. 202. H 15 504 0 1202 *

505. The Politics of Health. (3). Cross-listed as Pol. Sci. 505. Prerequisite: HAE 503, Pol. Sci. 121 or departmental consent. H 15 505 0 1202 *

506. Teaching and Learning Strategies in Health Science. (3). A course examining the various means of presenting health knowledge and coupling these teaching strategies with the audiences and types of student bodies that will receive this knowledge. The nature of health care curriculm is examined in depth, as are procedures for developing and improving them. Health education curricula are explored. Prerequisites: departmental consent. H 22 506 0 1201

507. Health Planning. (3). Prerequisite: departmental consent. H 21 507 3 1202 *


590. Legal Aspects of Health Care Administration. (3). Cross-listed as Geron. 590. Prerequisite: junior standing or departmental consent. H 21 590 0 1202 *

605. Health Services Research. (3). Prerequisites: departmental consent. H 15 605 0 1201 *

684. Seminar in Health Care Administration. (3). May be repeated for credit. Prerequisites: HAE 503 and at least one other HAE course. H 21 684 0 1201 *

Health Science

The health science department faculty is responsible for offering applied/clinical courses in health sciences. These courses are applicable to several programs within the college.

Lower Division Courses

150. Workshop in Health Sciences. (1-4). H 18 150 2 1201

201. Orientation to Health Professions. (2). An examination of the health team concept, the role and relationship of the various providers of health care and the criteria for the selection of a health career. Emphasis is placed on the health team concept. H 18 201 0 1201

230. Clinical Anatomy of the Thorax. (1). 1R; 2L. Fall semester. Presents the structure and mechanisms of the thorax, including neuromuscular, skeletal, cardiovascular and respiratory systems. Laboratory includes use of human cadavers and models. Prerequisites: respiratory therapy major and instructor's consent. H 18 230 0 0412

Upper Division Courses

301. Clinical Pharmacology. (2). A survey of therapeutic terms, drug actions, dosage, toxicology and application of drugs in the clinical setting. H 18 301 0 1201

331. Principles of Dietetics and Nutrition. (3). A study of human dietetic and
nutritional needs in the clinical setting. Composition and classification of foods, vitamins and their function; food and public health laws; and nutrition under special conditions are covered. A detailed application of dietetic and nutritional knowledge applied to various clinical conditions is given. H 18 331 0 0424

385. Health Care Team Concepts. (1-6). A seminar and practicum course designed to provide opportunity for health professionals to share experiences as members of the health care team. Departments will select the number of credit hours needed for students within their program. Prerequisite: instructor’s consent. H 18 385 2 1201

388. Clinical Anatomy. (3). Fall semester. A course designed to further the understanding of the health professional in a comprehensive and/or specific area of human anatomy. Emphasis is placed on the human anatomy of the thorax, abdomen, pelvis, head and neck. Prerequisites: Biol. 225, or equivalent, instructor’s consent, and enrollment in one of the professional programs. H 18 388 0 0412

389. Clinical Anatomy. (3). Spring semester. A continuation of HS 388, with emphasis on the anatomy of the genital-urinary, neuromusculoskeletal system and neuroanatomy. Prerequisites: HS 388, instructor’s consent and enrollment in one of the professional programs. H 18 389 0 0412

390. Clinical Physiology. (1-6). A course designed to further the understanding of the health profession 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 subsection. Prerequisites: instructor’s consent and enrollment in one of the professional programs. H 18 390 0 0410

400. Clinical Pathophysiology. (1-6). A lecture and discussion course designed for the health professional, presenting concepts of the process of disease. Departments will select the number of credit hours needed for their program and offer them under this course number with a designated subsection. Prerequisites: instructor’s consent and enrollment in one of the professional programs. H 18 400 0 1201

401. Advanced Clinical Pharmacology. (3). An advanced study of clinical pharmacology, pharmacognosy and pharmacodynamics that includes drug synergisms and side effects. Prerequisite: HS 301 and instructor’s consent. H 18 401 0 1201

411. Special Projects. (1-6). Supervised intensive study of special topics and problems related to health professions. By arrangement. Prerequisite: department chairperson’s consent. H 18 411 3 1201

421. Applied Clinical Pharmacology I. (3). A course designed to provide the student with a practical knowledge of pharmacotherapeutics. Emphasis is placed on the pharmacodynamic and toxicologic properties of chemotherapeutic agents and of drugs affecting the cardiovascular and autonomic nervous systems. Prerequisites: current enrollment in HS 390 and instructor’s consent. H 18 421 0 1201

422. Applied Clinical Pharmacology II. (3). A continuation of HS 421, with emphasis on drugs affecting the excretory, endocrine and central nervous systems. Prerequisites: HS 421 and instructor’s consent. H 18 422 0 1201

450. Workshop in Health Sciences. (1-4). H 18 450 2 1201

Courses for Graduate/Undergraduate Credit

521. Independent Study. (1-6). Offers reading and conference experience to complete a course requirement or provide enrichment in a specific area. Prerequisite: upper division or graduate standing, or department chairperson’s consent. H 18 521 3 1201

570. Interpretations of Sexuality for Health Professions. (3). Cross-listed as Nurs. 570. Elective. Strategies to assist clients and families to cope with sexual problems and disorders. Emphasis on relating varying interpretations of the biological, psychological and cultural aspects of sexuality to the helping professions. Open to nonnursing majors. H 18 570 0 1203

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. H 18 750 2 1201

The above abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 18; 2L means 1 hour of lecture and 2 hours of lab.
Earle Eric Heikka, *The Day of the Slow Guns*
Fairmount College of Liberal Arts and Sciences offers a variety of programs designed to serve the general objectives of Wichita State University and to enhance its urban mission. The college’s programs seek to preserve the cumulative learning of the past, interpret the research of the present, and enlarge the educational opportunities for the future by developing courses and curricula representing the newest developments in the world of learning.

For some time, the college has recognized four main areas of study: (1) preparation for professional and technical careers, (2) specialization through departmental majors, (3) cross-cultural education and (4) preparation for teaching. In recent years, however, the college faculty has expanded these traditional views to encompass nontraditional forms of education, such as the nonmajor general studies program or the interdisciplinary Master of Arts in Liberal Studies and the intensive use of field majors, such as classical studies, gerontology, international studies, Latin American studies, urban affairs and women’s studies. Substantial flexibility exists within all these areas, for the college serves both those who come directly from high school and those who come after many years away from school.

To state the specific aims of the college today is more complicated than it was in the past. Neither the students nor the accumulation of knowledge is the same. As times have changed, so has the faculty’s view of what should be retained and what should be modified in the college’s programs. The college is aware of the difficult task it has set for itself in accommodating the new while preserving the best of the traditional ways. It hopes to accomplish its aims while maintaining academic freedom for both students and faculty and thus to foster the right of dispassionate inquiry, whether by traditional or innovative means, into all areas of learning.

Policies

ADMISSION

Students may be admitted to Fairmount College of Liberal Arts and Sciences if they have successfully completed 24 semester hours and are not on probation as defined by the college.

PROBATION AND DISMISSAL STANDARDS

Students are placed on probation whenever their overall grade point average falls below 2.00. Probation is removed when the overall grade
point average reaches the required 2.00 level. Students are continued on probation when they earn a 2.00 or better semester average and their overall grade point average remains below 2.00. If students on probation fail to earn at least a 2.00 semester average, and if their overall grade point average remains below 2.00, they will be dismissed for poor scholarship. 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 enroll only with the permission of the college’s Committee on Admissions, Advanced Standing and Exceptional Programs.

APPLICATION FOR GRADUATION

Every student seeking a degree from the college must file an application for graduation and complete a degree card at the end of the semester in which 90 credit hours have been earned. Although actual graduation may be several semesters away, both the application and the degree card must be completed at this time. Applications filed in the semester in which graduation is intended may result in a delay in actual graduation by one or more semesters. Applications and degree cards may be obtained from the college office, room 200, Liberal Arts and Sciences Building.

FIELD TRIPS

Attendance on field trips is mandatory in any course that includes in its Catalog description a statement that field trips are required or in which the instructor states that field trips are essential for earning credit. Absences are permitted only with the instructor's prior approval. Students may have credit withheld for a course if they do not complete the required field trips.

EXTERNAL CREDIT PROGRAM

The External Credit Program applies only to courses offered by departments and programs within Fairmount College.

It allows persons to earn credit for learning that has taken place outside the traditional classroom such as business or industry training programs, extensive experience in community service and volunteer work, operating a business or holding elective office.

In order to receive credit for such learning, applicants must demonstrate knowledge equivalent to that gained in regularly offered University courses to the satisfaction of faculty in the appropriate fields of study.

The associate dean in charge of external credit will help decide which departments and programs within the college may give credit for nontraditional learning and representatives in those areas will determine the kind of documentation needed as evidence of this learning.
Students in the external credit program must be admitted to Wichita State University and are required to pay a nonrefundable assessment fee, which covers faculty assessment time. University and college equivalency examination fees will apply to all credit awarded. Applicants will be advised of these fees upon entering the program.

Degree Requirements

The Bachelor of Arts, Bachelor of Science and Bachelor of General Studies are conferred by Fairmount College of Liberal Arts and Sciences. Each degree requires a minimum of 124 credit hours and a grade point average of 2.00 (including transfer work). Students must also have a grade point average of 2.00 for all work taken at Wichita State that can be applied to the degree sought.

University requirements for graduation are listed in the Academic Information—Requirements for Graduation section of the Catalog.

The college also offers programs leading to the Associate of Arts in humanities, social sciences, natural sciences and mathematics, and gerontology and the Associate of Science in administration of justice.

BACHELOR OF ARTS AND BACHELOR OF SCIENCE

The following college requirements must be met in order for students to receive the Bachelor of Arts (BA) or the Bachelor of Science (BS) from the college. Courses taken to fulfill these requirements also satisfy the University's general education distribution requirements. The requirements for the BA and BS fulfill all University graduation requirements except the following University requirements:

1. Communications—6 hours of composition and 3 hours of oral communication.
2. General Studies—8 hours of courses listed as General Studies. These courses may also be applied toward college distribution requirements.
3. Professional Studies—at least 6 hours of courses listed in the Professional Studies Division of the General Education Program.
4. Upper Division—at least 40 semester hours of credit in courses numbered 300 or above.
5. Residence—at least 30 semester hours of course credit at Wichita State. At least 24 of the last 30 semester hours or 50 of the last 60 semester hours must be completed at Wichita State.
6. D Grades—no students are allowed credit toward graduation for D grade work in excess of one-quarter of the total hours.

I. English. Students must complete Eng. 101 and 102 with a grade of C or better and complete at least 3 hours of literature. Foreign language literature courses taken after completion of the foreign language requirement (if any) may be used to meet the literature requirement and to count for humanities hours.

II. History—Political Science. Students must demonstrate proficiency in the field of the American political system and institutions either by
passing Hist. 131, 132 or Pol. Sci. 121 or by passing an examination, offered each semester, by the history and political science departments.

III. Foreign Languages. Candidates for the BA degree must demonstrate proficiency at a level equivalent to 5 hours beyond 112 in one foreign language or equivalent to 112 in two foreign languages. This proficiency may be demonstrated in either of the following ways:

1. Students may successfully complete 111, 112, plus 5 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 1 high school unit for each college semester, may apply toward the required proficiency. Proficiency must be demonstrated by the completion of one college foreign language course in sequence or through credit by examination.

A student who has credit in two years of a high school foreign language may enroll in 111 and 112 for credit without departmental consent.

A student who has credit in three or more years of high school foreign language may take 111 and 112 for credit only if departmental consent has been received in writing. Otherwise, a student who has credit in three or more years of a high school foreign language may enroll in any 200-level course for credit without departmental consent.

Candidates for the BS degree have no foreign language requirement, unless the major department requires one. In that case, the foreign language required does not count in the humanities section of the general education distribution requirements.

IV. Mathematics. Students must demonstrate proficiency by passing Math. 109, 111 or 112 (or the equivalent) or by passing an examination of mathematical skills equivalent to those required for Math. 111, College Algebra.

V. Natural Sciences. Each student must take 12 semester hours (three courses), including 4 hours in a laboratory science. Each student must take at least one course in each of the physical and biological sciences divisions listed below. Or: students who have taken 2 units of high school laboratory science (exclusive of general science) must take at least 9 hours, including 4 hours in a laboratory science and one course in each of the physical and biological sciences divisions as listed below.

1. Physical Sciences—Chem. 101G, 3 hours; 103, 5 hours; 111, 5 hours; 112, 5 hours; and all other courses except Chem. 201. Geog. 201, 3 hours; 235, 3 hours; and those cross-listed with geology. (No other geography courses count toward the physical science division.) Geol. 101, 4 hours nonlaboratory; 111, 5 hours; 212, 3 hours; 300G, 3 hours; 302, 4 hours; 312, 4 hours. Phys. 111, 5 hours; 195C, 4 hours, or with 196, 5 hours; 213, 5 hours; 214, 5 hours; 311, 5 hours; 312, 5 hours.
2. Biological Sciences—Biol. 100G, 4 hours; 113, 5 hours; 114, 5 hours; and Biol. 102G, 5 hours nonlaboratory.

VI. Humanities. Candidates for the BA degree must take 12 to 15 hours of courses in at least three of the following subdivisions. Candidates for the BS degree must take 9 hours in at least two of the following subdivisions.

1. History
2. Literature (see Item I)
3. American Studies
4. Philosophy
5. Religion
6. Humanities
7. Linguistics—Ling. 150G, 315, 577
8. Art History (any course) and Music—Mus.-Comp. 113, 114, 160G, 161, 162
9. Speech 143G
10. Women’s Studies

VII. Social and Behavioral Sciences. Candidates for the BA degree must take 12 to 15 hours of courses in at least three of the following subdivisions. Candidates for the BS degree must take 9 hours in at least two of the following subdivisions.

1. Anthropology
2. Political Science
3. Sociology
4. Psychology
5. Minority Studies
6. Geography—all courses except Geog. 201, 235, 540, 560 and 564
7. Economics—Econ. 200G, 201, 202 and all upper division courses

VIII. Major. Students must meet the requirements for a major, which include maintaining a 2.00 grade point average in all courses in the major field.

IX. Nonliberal Arts and Sciences Courses. Students may count only 24 hours of nonliberal arts and sciences courses toward either the Bachelor of Arts or Bachelor of Science degree. (This would include courses taught outside of departments in the liberal arts and sciences.)

* A total of 27 hours must be taken in areas VI and VII by candidates for the BA degree.
† A total of 18 hours must be taken in areas VI and VII by candidates for the BS degree.

Majors and Minors for the Bachelor of Arts and Bachelor of Science

Fairmount College of Liberal Arts and Sciences offers Bachelor of Arts (BA) majors in American studies, anthropology, art, art history, biology, chemistry, classical languages, economics, English, French, geology, German, history, journalism, linguistics, logopedics, mathe-
matics, minority studies, music, philosophy, physics, political science, psychology, religion, social work, sociology, Spanish and speech communication.

Candidates for the Bachelor of Arts. Candidates must elect:
1. A major in one field of study, consisting of at least 24 hours but no more than 45 hours; or a combined major consisting of 24 hours from one field of study and 12 hours from an allied field of study (such a combined major must have departmental approval by the beginning of the junior year); or a major from a professional field, including art, economics, logopedics and music
2. At least 12 hours of upper division work in the major field
3. Work in additional fields of study outside the major field as deemed appropriate by the faculty of the major field of study.
Any hours in one field of study above 45 do not count toward graduation.

Candidates for the Bachelor of Science. Candidates should consult with their major adviser concerning requirements. The Bachelor of Science (BS) is available in administration of justice, biology, chemistry, computer science, geology, mathematics and physics. The degree normally requires 50 hours for the major, and additional hours in one field of study do not count toward graduation.

Other Candidates. Field majors also are offered through the college in classical studies, gerontology, international studies, Latin American studies, urban affairs and women's studies.

Minor. Students who major in art, logopedics or music must establish two minors in Fairmount College of Liberal Arts and Sciences. Minors are offered in geography, Italian and in all fields of study in which a major may be earned. Minors acceptable from outside the college are education (those courses necessary for certification), engineering and accounting. The number of hours required for a minor is set by each department.

BACHELOR OF GENERAL STUDIES
Students seeking the Bachelor of General Studies must fulfill the following requirements:
1. University requirements listed under the Bachelor of Arts and Bachelor of Science section as numbers 1 through 6 must be completed.
2. General education courses must be taken to include 12 hours in each of the following areas: humanities, social and behavioral sciences, and mathematics and natural sciences. In each of these areas, courses must be taken from at least two departments.
3. No major is required.
4. Students may count only 30 hours in nonliberal arts and sciences courses toward this degree. (These courses may include up to 4 hours of physical activities and up to 8 hours of chorus, band and musical ensembles or studio arts.)

5. No more than 60 hours (excluding courses taken to meet University composition and oral communications requirements) may be taken in one area of the college.

6. No more than 30 hours may be taken in one department of study.

ASSOCIATE DEGREES

Two-year associate degree programs offered by Wichita State are part of the regular academic programs, and credits earned in them are transferable to four-year, baccalaureate degree programs. They also may lead to the Associate of Arts (AA) or Associate of Science (AS), which are terminal degrees.

An associate degree requires a minimum of 60 semester hours in regular undergraduate courses, with the last 15 hours completed at Wichita State. All hours transferred from another institution as part of the associate degree program must meet the University's usual transfer requirements.

Associate degree candidates must have an overall grade point average of 2.00. An average of 2.00 is required in the areas of concentration. Students shall not be allowed credit toward graduation for D grade work in excess of one-quarter of their total work. Nor shall credit be allowed for more than 12 semester hours of work taken under A/Pass/Fail or Credit/No Credit options.

Policies concerning admission, retention and other academic standards apply to students in the associate degree programs.

At least 30 hours of general education courses must be taken, with 6 hours in each of the following areas: English and communication, social sciences, natural sciences and mathematics, and humanities. A foreign language may be counted toward general education or an elective credit, but it is not required for the associate degrees.

Areas of concentration encompass a logical combination of courses to provide initial occupational expertise in selected areas or to help students fulfill personal, social or cultural objectives. Candidates must complete a sequence or combination of courses to meet objectives authorized by the University. Areas of concentration may include combinations of courses in disciplines of arts and sciences approved by the University. At least 15 hours in one area of concentration is required.

Associate of Arts in Humanities

The associate degree in humanities requires 60 semester hours, including the following requirements:

Fairmount College of Liberal Arts and Sciences  301
I. General Education (30 semester hours)
   1. English composition—6 hours
   2. Oral communication—3 hours
   3. Social sciences—6 hours
   4. Natural sciences and mathematics—6 hours
   5. Humanities—6 hours
   6. Electives—3 hours

II. Area of Concentration (15-20 semester hours)
   At least 15 to 20 semester hours of course work must be taken from the
   following general areas, with at least three courses from one disci­
   pline.
   - Art
   - Music
   - English
   - Philosophy
   - History
   - Religion
   - Modern languages
   - Speech Communication

III. General Electives (10-15 semester hours)
    Students must select at least 10 to 15 hours of elective courses in
    consultation with their academic adviser to support the overall objectives
    of their degree program.

Associate of Arts in Social Sciences

The associate degree in social sciences requires 60 semester hours, including the following requirements:

I. General Education (30 semester hours)
   1. English composition—6 hours
   2. Oral communication—3 hours
   3. Social sciences—6 hours
   4. Natural sciences and mathematics—6 hours
   5. Humanities—6 hours
   6. Electives—3 hours

II. Area of Concentration (15-20 semester hours)
   At least 15 to 20 semester hours of course work must be taken from the
   following general areas, with at least three courses from one disci­
   pline.
   - Anthropology
   - Journalism
   - Broadcasting
   - Political Science
   - Economics
   - Psychology
   - Geography
   - Sociology
   - History

III. General Electives (10-15 semester hours)
    Students must select at least 10 to 15 hours of elective courses in
    consultation with their academic adviser to support the overall objectives
    of the degree program.

Associate of Arts in Natural Sciences and Mathematics

The associate degree in natural sciences and mathematics requires 60 semester hours, including the following requirements:

I. General Education (30 semester hours)
   1. English composition—6 hours
   2. Oral communication—3 hours
   3. Social sciences—6 hours
   4. Natural sciences and mathematics—6 hours
   5. Humanities—6 hours
   6. Electives—3 hours
II. Area of Concentration (15-20 semester hours)
At least 15 to 20 semester hours of course work must be taken from the following general areas, with at least three courses from one discipline.

- Biochemistry
- Biology
- Chemistry
- Computer Science
- Geography
- Geology
- Mathematics
- Physics
- Statistics

III. General Electives (10-15 semester hours)
Students must select at least 10 to 15 hours of elective courses in consultation with their academic adviser to support the overall objectives of their degree program.

Associate of Arts in Gerontology
The associate degree in gerontology is offered through the gerontology program, as described in the Gerontology section of the Catalog.

Associate of Science in Administration of Justice
The Associate of Science is offered in the Department of Administration of Justice, as described in the Administration of Justice section of the Catalog.

Special Programs of Study
Fairmount College of Liberal Arts and Sciences provides some basic courses for certain professional fields and for subsequent professional studies. The liberal arts studies are recognized as vital in establishing background resources for such areas. Many similarities can be found in the broad pattern of professional education, but marked differences in specific requirements may occur.

FIELD MAJOR
Students may select a major that correlates three or more fields of study to receive a broad appreciation of the cultural and dynamic factors of human conduct. The selection of courses must be made with an adviser and with the dean’s approval. Although such a major cuts across departmental lines and is determined by the field of specific interest, the combination of courses must be acceptable to the college. Normally 36 hours is required for the major, with 18 hours in the major department and at least 9 in each of the two allied departments. Field majors may be taken in classical studies, gerontology, international studies, Latin American studies, urban affairs and women’s studies.

Classical Studies. Classical Studies is a new 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, archeology, comparative literature, law, religion
and Near Eastern studies.

The major consists of 36 hours, including 6 hours selected from
Greek or Roman history (Hist. 559, 560, 562, 563, 350) and 6 hours
selected from art history (Art Hist. 221, 222, 621, 520). Also required
are Phil. 531 or 680, Eng. 545 or 550, and one of the following: Art
Hist. 121G, 322, Rel. 442, Hist. 101, or Pol. Sci. 542. In addition, the
223-224 sequence of Latin or Greek must be demonstrated by exami-
nation. The remainder of the 36 hours must be selected from a list of
approved courses. For further information and for a list of approved
courses see Dr. Patrick Kehoe (romance languages).

Gerontology. The major in gerontology consists of courses from the
social sciences, the natural sciences and several professional programs.
The major presents a complete picture of the aging process from the
physical, social, economic and health and welfare viewpoints. The
program provides a coherent academic background, with the flexibility
of concentrations in applied professional and paraprofessional train-
ing.

To obtain the field major, students must take at least 30 hours,
including 20 hours of requirements and 10 hours of electives. A minor
consists of 15 hours.

Students also may receive the Associate of Arts in gerontology,
which is described in the Gerontology section of the Catalog.

For further information, contact Professor William C. Hays (geron-
tology) or academic coordinator Ellen Rhoads (gerontology).

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, govern-
ment, business, and international organizations. Students are prepared
for careers in international organizations in the U.S. government and
in business firms with international activities.

Two options are available: Option A is in area studies; Option B is a
combination of area studies and international business. No minor is
required for either option. Students interested in Option A should
contact Professor John Dreifort (history); those interested in Option B
should contact Professor Dharma deSilva (administration) or Professor
Dreifort.

Latin American Studies. The interdepartmental curriculum in Latin
American studies provides a broad-based program of study leading to a
better understanding of both historic and contemporary Latin
America. Two alternatives are offered: an emphasis in Spanish lan-
guage or an emphasis in social sciences. A minor also is offered.

A major in Latin American studies with an emphasis in Spanish
consists of at least 32 hours, including Anthro. 508; Econ. 370 or 671;
Hist. 111, 112 and 554; Geog. 530; Pol. Sci. 523; and Span. 540, 626 and other 500- or 600-level courses in Latin American literature. Other courses must be selected from the following: Anthro. 546; Hist. 550, 551, 552 or 553; and Pol. Sci. 320. Approved special projects courses related to Latin America taken in the departments listed above also may count toward the major in Latin American studies. Proficiency in reading Portuguese is required.

A major in Latin American studies with an emphasis in social sciences consists of at least 30 hours, including 21 hours of required courses: Anthro. 508; Econ. 671; Hist. 111, 112 and 554; Geog. 530; and Pol. Sci. 523. An additional 9 hours must be selected from the following: Anthro. 546; Hist. 550, 551, 552 or 553; Econ. 370 or 670; Pol. Sci. 320; and Span. 542. Approved special projects courses related to Latin America taken in the departments listed above may also count toward the major in Latin American studies. Majors must take at least 13 hours of Spanish or demonstrate equivalent competence in reading and conversation.

A minor in Latin American studies requires that students take Anthro. 508, Econ. 671, Geog. 530, Hist. 111 and Pol. Sci. 523. In addition, Spanish must be chosen to fulfill the liberal arts language requirement.

_Urban Affairs._ Majors in urban affairs follow a flexible, interdepartmental program that provides a broad understanding of the modern city and expert preparation for urban vocations. While courses may be combined and selected from any three departments, basic course selection should be primarily in economics, political science and sociology, with additional courses selected from administration of justice, anthropology, history, minority studies, psychology and geology-geography. Students may design their programs to emphasize urban economic systems, urban form and technology, urban art and literature, historical and comparative urbanization, urban political and social systems, and urban communication.

Actual courses and course patterns must be selected in close consultation with special urban studies advisers.

_Women's Studies._ The major in women's studies includes courses in various fields, especially in the humanities and social sciences, that present a coherent picture of woman in the past, her activities in the present and ways of increasing her capacity to function as a full human being in the present and the future. Students preparing for vocations that emphasize women’s concerns are especially encouraged to pursue women’s studies as a second major.

The major consists of at least 24 hours, including WS 387, 388 and 589. In addition, appropriate courses may be selected from such fields as humanities, sociology, history, literature, anthropology, religion, psychology and speech. Courses counted toward a major or minor in
another field may not be included. The minor consists of 15 hours, including WS 387 and 388.

For further information, contact the Women's Studies office, 535 Liberal Arts and Sciences I.

ART HISTORY

The art history program is designed to prepare students for the whole range of activities related to the art of the past: criticism, college- and secondary-level teaching, and conservation.

The art history major in the college of liberal arts and sciences requires a minimum of 30 hours of art history and must include Art Hist. 121G, 122G and 426. Because of the international nature of the study, students must take at least 13 hours in French, Italian or German.

The art history minor requires 15 hours in art history, including Art Hist. 121G and 122G.

All art history courses are listed under the College of Fine Arts, Division of Art, section of the Catalog.

MUSIC

Requirements and curriculum for a major in music in the college of liberal arts and sciences are listed in the College of Fine Arts, Division of Music, section of the Catalog.

SPECIAL PREPROFESSIONAL PROGRAMS

Advisers in the various preprofessional fields and closely related departments provide specific information regarding courses and requirements.

Prelaw

The Association of American Law Schools states that students interested in pursuing a law degree should get a broad undergraduate education that provides "comprehension and expression in words, critical understanding of the human institutions and values with which the law deals, and creative power in thinking." These qualities are to be achieved through disciplined study in the fields of the student's choice. Requirements for the BA provide students with both a general education and a concentration in a field of major study.

The prelaw advisers—Professors John E. Stanga (political science), James Duram (history) and Fred Benson (administration of justice)—can supply students with information about entrance requirements for law school so they can arrange their undergraduate programs to meet these requirements.
Premedical, Predental, Preveterinary, Prepharmacy, Preoptometry

Medical schools encourage students to obtain a broad education in addition to the prescribed studies in the sciences. Preparation for the study of medicine should include courses that develop disciplined thinking, intelligent appreciation of values and sympathetic understanding of man and society. Since the study of medicine is associated with scientific knowledge and techniques, courses in biology, chemistry, physics and allied fields are required. Students may choose to major in one of these fields, or they may select other majors in preparation for the study of medicine.

While the four-year degree program is preferred, it is possible in some medical schools to gain admission on the basis of a three-year program of studies. Wichita State students on the three-year program may be granted the BA by Wichita State if they have taken 94 hours of preparation (the last 30 must be taken at Wichita State) within the required fields of study; earned 188 credit points, with no more than 20 hours of D grade work; passed the first year of medical or dental school (for 30 hours); and qualified for admission to the second year. Candidates must apply for the degree. Biology majors are required to complete 94 hours plus either the zoology or microbiology option listed under the Department of Biological Sciences section of the Catalog.

Dental schools require prescribed preparation in the sciences, as well as a broad education. Entrance requirements are generally similar, but students should give careful attention to the pattern in each school of their choice. Emphasis on the sciences, especially biology, is recommended. The counselor for predental studies in the College of Health Related Professions can provide a specific program of course work for either the three- or four-year program.

The preparation for the study of veterinary medicine generally includes a broad education and an emphasis on science, especially biology. The counselor for preveterinary medicine in the College of Health Related Professions can provide a specific program of course work.

Schedules also may be arranged to meet entrance requirements of the various schools of optometry, osteopathy, pharmacy, mortuary science and related professional fields.

Pretheological

Students interested in pursuing graduate theological work should consult with the religion department chairperson for specific requirements set forth by specific seminaries.

Social Work

A major and minor are provided in the sociology/social work department for training in various areas of social work and human services.
Courses are designed primarily to prepare students for beginning professional social work practice at the baccalaureate level, but they also are valuable in preparing students for graduate training in social work. The social work sequence is useful for students planning to enter other helping professions as well as responsible community participation in human concerns.

The curriculum for the BA in social work is listed in the Department of Sociology/Social Work section of the Catalog. WSU’s program is accredited by the Council on Social Work Education.

**Teaching**

Students in the college of liberal arts and sciences may qualify for secondary teaching certificates in Kansas and several other states. Those who plan to qualify for the standard secondary teaching certificate must complete the program outlined in the College of Education section of the Catalog.

**Graduate Degrees Offered**

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, English, history, political science, psychology, sociology and Spanish, and the Master of Science (MS) may be obtained in biology, chemistry, geology, mathematics or physics. The Master of Arts in Communication (MAC) is awarded in communication; the Master of Fine Arts (MFA) in creative writing; the Master of Administration of Justice (MAJ) in administration of justice; the Master of Education (ME) in speech; the Master of Arts in Liberal Studies (MALS) in interdisciplinary studies; and the Master of Urban Affairs (MUA) in urban affairs. For more information, consult the Wichita State University Graduate School Bulletin.

**Administration of Justice**

The program in administration of justice provides a broad, multidisciplinary background for preservice and in-service students seeking course work to increase their ability as practitioners in the American system of justice. Students may specialize in an area of their particular interest, including law enforcement, courts or corrections. Students preparing for advanced study in law or criminology are also given an excellent background.

**BACHELOR OF SCIENCE—MAJOR AND MINOR**

Major. The major in administration of justice consists of at least 33 hours, including AJ 100, 201, 510 or 512, 521 and 403, and 18 hours in one of the following areas of specialization.
I. General Administration of Justice (18 hours)
This area offers an overview of administration of justice and an exposure to a variety of specializations. Students must choose 18 elective hours in administration of justice course work (all of which must be upper division), including a minimum of 12 hours to be distributed among at least three of the five specialty areas listed below. Any course listed in two areas fulfills only the distribution requirement for one area.

II. Agency Administration (18 hours)
This area concerns the management of law enforcement and corrections agencies' line and staff services. Course work in this area includes AJ 501, 633, 636, 639 and 6 elective hours of administration of justice upper division courses.

III. Corrections Services (18 hours)
This area involves rehabilitative casework and court-directed supervision of convicted offenders in both correctional institutions and the community. Course work in this area includes AJ 560, 606, 653, 656 and 6 elective hours of administration of justice upper division courses.

IV. Investigation (18 hours)
This area encompasses scientific and traditional criminal investigation services provided by law enforcement agencies. Course work in this area includes AJ 343, 344, 643, 646 and 6 elective hours in administration of justice upper division courses.

V. Prevention Programs Development (18 hours)
This area concerns the development of community-based law enforcement and corrections programs, as well as those in crime and delinquency prevention. Course work in this area includes AJ 560, 606, 633, 636, 660 and 3 elective hours in administration of justice upper division courses.

VI. Security Services (18 hours)
This area concerns the management, procedures, technological systems and operational research functions of contract, industrial and institutional security agencies. Course work in this area includes AJ 370, 570, 572, 670 and 6 elective hours in administration of justice upper division courses.

In addition to specific course requirements, all students seeking the Bachelor of Science (BS) with a major in the Department of Administration of Justice must complete at least 21 semester hours of upper division course work in administration of justice. Upper division course work is defined as junior- and senior-level course work offered by an accredited four-year college or university and considered by Wichita State and the Department of Administration of Justice to be of upper division academic quality.

To satisfy the requirements for the BS in administration of justice, students may take foreign language course work at their discretion. Students majoring in administration of justice are also directed to select a minimum of 24 hours of supportive course work in one or more of the following areas: sociology, social work, psychology, minority studies, American studies, political science, anthropology, chemistry, biology, geology or physics. With their adviser's assistance and approval, students may select courses from these areas that best relate to their particular administration of justice specialty area. (Note: These courses may be chosen to satisfy certain sections of the Wichita State
general education requirements as well as the administration of justice requirements.)

Certificate of Emphasis in Cross-Cultural Communications for Administration of Justice. The emphasis in cross-cultural communications in administration of justice is designed to provide learning experiences that will prepare practitioners to bring about favorable interaction between criminal justice agencies and the minority groups they serve. This emphasis area attempts to prepare students to develop empathetic responsiveness, combined with humanistic insights, and to develop and maintain mutually dependent helping and working relationships between criminal justice and a variety of minority groups.

All students majoring in administration of justice (including all fields of specialization) may opt to obtain the Certificate of Emphasis in Cross-Cultural Communications for Administration of Justice in addition to the administration of justice major. Those students seeking this certificate must satisfactorily complete Min. Stud. 210 and one of Min. Stud. 331, 332, 333 or 334, plus 12 additional hours in minority studies course work, 9 of which must be in upper division courses.

Minor. The minor consists of at least 18 hours of administration of justice courses, including AJ 100 and four upper division courses.

ASSOCIATE OF SCIENCE

The Associate of Science degree in administration of justice is awarded to students who complete the 64-hour, two-year program. The requirements for the degree are summarized in the table.

I. General Education Course Requirements (30 hours)
   Eng. 101, College English I, 3 hours
   Eng. 102, College English II, 3 hours
   Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communications, 3 hours
   Humanities, 6-9 hours
   Social sciences, 6-9 hours

II. Professional Curriculum (12 hours)
   AJ 100, Introduction to Administration of Justice, 3 hours
   AJ 103, Law Enforcement in the Community, 3 hours
   AJ 201, Agency Administration I, 3 hours
   AJ 220, Criminal Law, 3 hours

III. Elective Hours (22 hours)

Lower Division Courses

AJ 100 or departmental consent is prerequisite for all administration of justice courses unless otherwise noted.
police, the courts, correctional agencies and the offender. The administration of justice role is studied as it relates to the individual and to society. Through visitation and contact with administration of justice agencies, the student is acquainted with the responsibilities and problems of personal development for an administration of justice career. A 29 100 0 2105

103. Law Enforcement in the Community. (3). Rights and duties of citizens. Constitutional provisions affecting law enforcement officers, emphasizing due process, search and seizure, and informant identity are explored. Interview and interrogation techniques and procedures used in all phases of contact within the community structure are examined. A 29 103 0 2105

201. Agency Administration I. (3). A survey of management models, administrative techniques and patterns of organizational structure characteristic of administration of justice agencies. A 29 201 0 2105

202. Fire Services Administration I. (3). A survey of management models, administrative techniques and patterns of organizational structure characteristic of the fire service agency. A 29 202 0 2102

220. Criminal Law. (3). History, scope and nature of law; parties to crime; classification of offenses; act and intent; capacity to commit crime and defenses. Elements of major criminal statutes and an overview of criminal processes and rules of evidence are examined. A 29 220 0 2105

Upper Division Courses

303. Contemporary Issues in Criminal Justice. (3). An analysis of criminal justice in a changing society. Topics are explored that are most relevant to contemporary issues and trends in law enforcement, courts and corrections. Prerequisite: none. A 29 303 9 2105

320. Criminal Procedure. (3). Criminal procedure in the administration of justice system, including rights of accused, initiation of prosecution, rules of arrest, search and seizure, and the exclusionary rule. A 29 320 0 2105

340. Investigative Technology. (3). An analysis of technology and systems utilized in both criminal and traffic investigation using crime scene investigating procedures, various methods of personal identification, investigative photography, and traffic accident and safety investiga-
istration of justice system, with emphasis on the student's research project. Repeatable for credit not to exceed a total of 6 hours. Prerequisites: 15 hours in the administration of justice core and departmental consent. A 29 421 3 2105

422. Internship. (3). Supervised field placement with a governmental or private law enforcement, court, correction, juvenile justice, forensic science or security agency. The internship is designed to provide a learning experience in which the student can integrate and apply knowledge and theory derived from the administration of justice curriculum. Interns are required to work 128 hours for 3 hours credit; there is a maximum of 6 hours credit. Prerequisites: 15 hours in administration of justice, junior or senior standing, consent of the criminal justice agency, and internship coordinator's consent. A 29 422 3 2105

445. Special Topics. (3-6). Group project and inquiry through student investigation under faculty supervision of administration of justice topics, including law enforcement, corrections, and the judicial process. Repeatable for credit, not to exceed a total of 6 hours. A 29 445 3 2105

Courses for Graduate/Undergraduate Credit

501. Agency Administration II. (3). An intensive examination of a variety of emerging administrative and management innovative concepts. The processes related to the determination and implementation of management philosophy for the administration of justice agency and its individual practitioners are explored. Prerequisite: AJ 201 or departmental consent. A 29 501 0 2105

510. ADP in Administration of Justice. (3). A survey of use and potential of automated data processing in police, courts and correctional agencies. The ethical and legal problems confronting society and agencies of the justice system occasioned by the use of computers as information-gathering and storage instruments are examined, as well as the advantages of using ADP in basic and applied research in the administration of justice. A 29 510 1 2105

512. Research Methods. (3). An introduction to statistical methods, including experimental design, the analysis of statistical processes and related procedures. A study is made of the general methodology of research as it pertains to the administration of justice. A 29 512 0 2105

521. Law and the Administration of Justice Process. (3). Examination of recent judicial interpretations affecting legal process, rules of evidence, substantive law and administrative law. An in-depth study of statutory provisions is made, with emphasis on the conflict of laws and legal trends affecting administration of justice personnel. A 29 521 0 2105

533. Juvenile Justice. (3). An analysis of decision-making processes in juvenile justice, the content of juvenile law, Supreme Court decisions affecting juvenile justice, as well as specific select problems in the administration of juvenile justice. A 29 533 0 2105

560. Community Prevention Programs. (3). An analysis of typologies, philosophies and operations of existing and projected community-based crime prevention programs. Emphasis is also placed on a variety of governmental and non-governmental community support and action programs, which, although not traditionally identified as such, appreciably contribute to the administration of justice process. Program categories to be analyzed include citizen involvement (voluntary and civic advisory groups) and educational, religious and family welfare and youth services. A 29 560 0 2105

570. Security Staff Supervision. (3). Assessment of qualities of human beings in different systems under different headings. Analysis using actual cases and appraisals of the concept of loyalty, security, and suitability of personnel in governmental or private agencies. Prerequisite: AJ 370 or departmental consent. A 29 570 0 2105

572. Security Technology. (3). Physical security hazards, threats, sabotage, theft and pilferage problems as they affect the governmental and private agencies as well as actions taken by security officers to counter them. Emphasis is on research in the development of security technology hardware and software. Prerequisite: AJ 370 or instructor's consent. A 29 572 0 2105

600. Forensic Anthropology. (3). Cross-listed as Anthro. 600. This course encompasses the area of criminal investigation involving biological evidence: blood, hair, fingerprint, dentition, and skeletal systems. It covers procedures of collection, preservation, marking, transportation, referral, laboratory analysis, classification, and identification, with an emphasis in anthropological interpretation. A 28 600 0 2202
606. Conflict Resolution in the Administration of Justice. (3). An analysis of community and individual reaction to agency policy and services. Emphasis is placed on the agency’s role as mediator between offenders and victims of crime and between other groups and individuals in conflict. A 29 606 0 2105

610. The Victim and the Administration of Justice. (3). An examination of the relationship of criminal victims to the criminal justice system. Consideration is given to the role of the victim in crime occurrences, as well as theoretical developments in the field. A 29 610 0 2105

633. Planning in the Administration of Justice. (3). Analysis of planning techniques related to the procedures, personnel, physical and specialized equipment, budget and extra-agency activities. Prerequisite: AJ 201 or departmental consent. A 29 633 0 2105

636. Public and Community Relations. (3). Analysis of techniques utilized by administration of justice agencies in both public and community relations programs that are designed to optimize the agency’s communication capability. Special emphasis is placed on the unique characteristics of both public and community relations. A 29 636 0 2105

639. Techniques of Agency Staff Supervision. (3). Analysis of personnel supervision, training and evaluation techniques utilized by administration of justice agencies, with emphasis on techniques that optimize the agency-practitioner work relationship. Prerequisite: AJ 201. A 29 639 0 2105

643. Forensic Science. (3). Analysis of the medical role of prevention, detection and treatment as related to the administration of justice. Emphasis is placed on medical specialty areas, such as pathology and psychiatry, which have significant effect on segments of the administration of justice process. A 29 643 1 2105

646. Seminar on Investigation Theory and Practice. (3). Analysis and discussion of investigative theory and practice, with special emphasis on technological innovation and current judicial perspective. Prerequisites: AJ 343 and 344. A 29 646 0 2105

653. Field Corrections Techniques. (3). An analysis of the techniques of probation, parole, after-care supervision and related services. Special emphasis is placed on field corrections techniques as they relate to other segments of the administration of justice system. A 29 653 0 2105

656. Institutional Corrections Techniques. (3). An analysis of the techniques of institutional correctional practice, including diagnostic centers, halfway houses and other related treatment models. Special emphasis is placed on institutional corrections techniques as they relate to other segments of the administration of justice system. A 29 656 0 2105

660. Techniques of Prevention Program Development. (3). An analysis of the techniques utilized to organize and develop traditional and projected crime prevention and related governmental and nongovernmental sponsored programs. Special emphasis is placed on the techniques of identifying existing community services resources and subsequently increasing their level of involvement in the administration of justice process. Prerequisite: AJ 560 or departmental consent. A 29 660 0 2105

670. Seminar—Security, Theory and Practice. (3). An advanced seminar that emphasizes the interrelationships between theories underlying contemporary security practice. Special emphasis is placed on the application of instructor’s theory that supports innovation. Prerequisite: AJ 370 or departmental consent. A 29 670 0 2105

680. Administration of Justice: Transnational and Comparative Perspectives. (3). Primarily designed to acquaint students with structural and functional aspects of law enforcement agencies, court systems, correctional facilities, juvenile treatment and crime prevention strategies employed by different societies throughout the world. The role of the United Nations Treatment of Offenders and Crime Prevention is incorporated. A 29 680 0 2105

750. Workshops in Administration of Justice. (3). Prerequisite: AJ 100 or instructor’s consent. A 29 750 2 2105

Courses for Graduate Students Only

800. General Seminar on the Administration of Justice. (3). An overview and integration of major propositions, concepts, assumptions, history and methods from the various fields of administration of justice, including law enforcement, the courts, corrections and legislative control. The possible contribution of other community agencies is also explored. A 29 800 0 2105
801. Judicial Process and the Administration of Justice. (3). The review and discussion of local, state and federal criminal statutes and court decisions as they apply to the administration of justice process. A 29 801 0 2105

802. Advanced Field Corrections Methods. (3). An in-depth analysis of the methods of field corrections, including parole, probation and after-care supervision. Particular attention is given to the relationship that field corrections has to the larger administration of justice system. A 29 802 0 2105

803. Advanced Institutional Corrections Methods. (3). A course analyzing basic methods utilized in the organization and accomplishment of objectives in correctional institutions. Along with the more traditional corrections institutions, the seminar reviews methods utilized in diagnostic centers, halfway houses and other treatment models. A 29 803 0 2105


805. Seminar on Principles of Evidence and Proof. (3). An in-depth examination of different types of legal proof that are presented at court trials. Included in the examination are the mediums of witnesses, records, documents, concrete objects, etc. A 29 805 9 2105

806. Seminar on Agency Administration. (3). A comparative survey and analysis of administrative philosophy, problems, procedures, organizations and functions of effective agency organization. Administrative skills related to operations and personnel both within and outside the agencies are considered. A 29 806 0 2105

811. Research Methods for the Administration of Justice. (3). The advanced study of selection and formulation of research problems; the study of design in the research project, including hypotheses and scale construction and sampling procedures; and a review of methods and the nature of the research process, analysis and interpretation. Prerequisite: AJ 512 or equivalent. A 29 811 0 2105

812. Seminar on the Application of Criminological Theory. (3). An in-depth analysis of the major theories of criminology and of their importance to the administration of justice process. Emphasis is placed on the integration of a consistent, valid and individual frame of reference being developed by the student. A 29 812 9 2105

814. Seminar on Critical Issues in Criminal Justice. (3). Emergent phenomena in the overall system of criminal justice are investigated to demonstrate the pertinence of theory to practice. Examples of issues include role conflicts in law enforcement and corrections, police professionalism, its place and function; the offender as a client for services; and corrections as a setting for research. A 29 814 9 2105

821. Seminar in Criminological Theory. (3). Review and discussion concerning theories and ethics involved in the application of the physical sciences, including chemistry, biology, mathematics and physical anthropology, to the investigation of crime. A 29 821 9 2105

822. Automated Data Processing in the Administration of Justice. (3). An advanced seminar concerning the methods, purposes, possibilities and problems encountered in the establishment and utilization of automated information and computerized data-processing systems. Special attention is given to the implications that automated information systems have upon police-public relationships. A 29 822 9 2105

823. Forensic Science Seminar. (3). The extensive examination of the wide field of issues in which medicine comes into relation with the law. It involves certification of the dead, the study of violent and unnatural deaths, scientific criminal investigation, drug detection, the duty of the medical examiner, procedures in courts of law and considerations of medical ethics or proper standards. A 29 823 9 2105

824. Seminar on Administration of Justice Education and Training. (3). Analysis of the specialized methods and techniques and technological innovations utilized in the administration of justice educational and training process. A 29 824 9 2105

827. Seminar on Environmental Protection. (3). An in-depth analysis of emerging federal, state and local legislation; judicial decisions; and administrative policy as related to environmental protection. The roles of the administration of justice agency and a variety of governmental and nongovernmental protective agencies are explored as related to prevention, investigation and enforcement processes of environmental protection. Special emphasis is placed upon the contribution administration of justice agencies can make toward development and implementation
of effective environmental public education and assistance programs. A 29 827 9 2105

832. Seminar on Agency-Community Relations. (3). An in-depth analysis of the role of agency administrators in community relations and related public officials in existing community programs. Special emphasis is placed upon a multiplicity of approaches for developing new and redefining existing lines of communications between the agency and its community. A 29 833 9 2105

833. Seminar on Youth and the Administration of Justice. (3). An analysis of the criminal justice process as related to the youthful offender. Emphasis is placed upon functional components, such as training of corrections personnel, community coordination for delinquency prevention and control, police-school relations and ethical administrative and operational aspects of the administration of justice agency's effort as in the juvenile court. A 29 833 9 2105

851. Individual Directed Study in the Administration of Justice. (3-6). Individually directed advanced reading and/or research in special areas of interest in the field of administration of justice. Prerequisite: departmental consent. A 29 851 3 2105

852. Practicum. (3-6). Prerequisite: consent of departmental graduate committee. A 29 852 3 2105

853. Internship. (3-6). Prerequisite: consent of departmental graduate committee. A 29 853 3 2105

854. Thesis. (3-6). Prerequisite: consent of departmental graduate committee. A 29 854 3 2105

American Studies

The program in American studies provides both a broad cultural background and a specialization in a field of particular interest.

Major. Students must have a minimum of 37 hours, consisting of 2 or 4 hours of Amer. Stud. 301; 9 hours from Amer. Stud. 511, 512, 521, 522, 611 or 612; and 3 to 6 hours from Amer. Stud. 698 and 699. In addition, 18 hours can be chosen from at least three of the following groups:

1. English—252, 362, 502, 503, 540
2. History—131, 132, 501, 502, 503, 519, 520, 535, 536, 537
3. Political Science—121, 311, 315, 316
4. Anthropology—511, 535, 538, 540, 611, 690, 698
5. Philosophy—556
6. Economics—627
7. Speech—632
8. Geography—520

Minor. A minor in Fairmount College of Liberal Arts and Sciences consists of 15 hours, including 2 or 4 hours from Amer. Stud. 301 plus at least 6 other upper division hours.

Lower Division Courses

100. Business History of the United States. (3). Cross-listed as Econ. 100. A 11 100 0 0313

201G. The American Hero. (3). Defines historical, cultural and environmental conditions that fostered the rise of many genres of American folk heroes. Representative heroes from colonial times to the present are examined to see how they symbolize the American character. A 11 201G 0 0313

210. Crime in America. (3). A study of crime in America, from colonial times to the present. Topics explored are the evo-
ution of crime, crime as depicted in literature, crime as depicted in popular entertainment, and popular attitudes toward crime and criminals. A 11 210 0 0313

Upper Division Courses

301. Introduction to American Studies. (2). An examination of the American background from an interdisciplinary perspective. The intent is to show how the humanities and social sciences can be linked in the study of America. Repeatable for a total of 4 hours of credit. Prerequisite: departmental consent. A 11 301 0 0313

315. Special Topics in American Studies. (1-3). An analysis of special topics in American studies. Repeatable for credit. Prerequisite: departmental consent. A 11 315 0 0313

318. Recent British-American Philosophy. (3). Cross-listed as Phil. 318. A 11 318 0 0313

Courses for Graduate/Undergraduate Credit

511. Patterns of Development of Early Americans. (3). The study of the records of Americans from settlement to the closing of the frontier. A 11 511 0 0313

512. Twentieth Century Problems in American Studies. (3). An analysis and a study of problems in various disciplines that influence American development. A 11 512 0 0313


521. The Midwest and the High Plains. (3). The background, the factors in the settlement of this vast area and the results of this settlement. A 11 521 0 0313

522. The American Southwest. (3). The background of the settlement of the American Southwest, the impact of the commingling of three different cultures and the evolving of a fourth culture. A 11 522 0 0313

533. Women and The Law. (3). A 11 533 0 0313

601. Directed Readings in American Studies. (1-3). Prerequisite: instructor’s consent. A 11 601 3 0313

602. Directed Readings in American Studies. (1-3). Prerequisite: instructor’s consent. A 11 602 3 0313

611. The Romantic Revolution. (3). The impact of the Romantic Revolution on the nation’s civilization as a liberating force in the period of its greatest change. A 11 611 0 0313

612. The Growth of Nationalism. (3). American civilization during the period of its awakening to its place as a nation and the problems encountered. A 11 612 0 0313

632. American Public Address. (3). Cross-listed as Speech 632. A 11 632 0 0313

698. Introduction to Research. (3). Bibliography, methodology and the philosophy of research. Repeatable for a total of six hours of credit. Prerequisite: departmental consent. A 11 698 9 0313

699. Seminar in American Studies. (3). Seminar in individual conferences organized around a problem or problems presented by a representative figure, theme or period, i.e., the Industrial Revolution, Reconstruction, westward migration or Mark Twain and the Mississippi. Repeatable for a total of 6 hours of credit. Prerequisite: departmental consent. A 11 699 9 0313

Anthropology

A major in anthropology consists of at least 30 hours, including Anthro. 124 or 202; 201 and 647; an area course, such as Anthro. 307, 312, 506 or 511; and one course in archaeology: Anthro. 305, 335, 501, 508, 513 or 538. Students who expect to pursue graduate work in anthropology should also take Anthro. 526. (Anthro. 100G, 126G and 749 do not count toward the major.)

Certain courses in related departments may be counted toward an anthropology major if they meet the particular needs of students and
are approved by their advisers. No more than 6 hours from another department may be counted.

**Minor:** A minor consists of 15 hours of anthropology (including at least 6 hours of upper division work) chosen in consultation with the student’s major adviser.

### Lower Division Courses

**100G. Anthropology of Modern Life.** (3). Anthropological perspectives on the behavior and institutions of contemporary man, with particular emphasis on the mass culture of the United States. A 28 100G 0 2202

**124. General Anthropology.** (3). An introduction to the fields of physical anthropology, archaeology and linguistics and an analysis of the concepts of society and culture, with special emphasis on nonliterate peoples of the world. A 28 124 0 2202

**126G. Popular Archaeology.** (3). Archaeology for everyone—its mysteries, romance and applications. Roles of interested non-specialist hobbyist, technician and professional will be compared. Emphasis on archaeology in the public eye and mind. A 28 126G 0 2203

**150. Workshop in Anthropology.** (1-3). A course designed to provide specialized instruction using a variable format, in an anthropologically relevant subject. Repeatable for credit. Prerequisite: instructor’s consent. A 28 150 2 2202

**201. Biological Anthropology and Archaeology.** (3). The study of man’s biological and cultural development from early Paleolithic times through the rise of Bronze Age civilizations. A 28 201 0 2202

**202. Cultural Anthropology.** (3). The meaning of culture, its significance for human beings and its diverse forms among peoples of the world, past and present. A 28 202 0 2202

**204. Biological Anthropology and Archaeology Lab.** (1). Lab fee. Prerequisite: previous or concurrent enrollment in Anthro. 201. A 28 204 1 2202

**299. Love, Hate and Jealousy in Other Cultures.** (3). Various cultural manifestations of basic human emotions are studied in terms of their presence or absence, power or impotence in institutionalized and noninstitutionalized contexts: marriage, kinship, friendship, homosexual relationships, politics, economics, religion and art. Prerequisite: Anthro. 124, 202 or instructor’s consent. A 28 299 0 2202

### Upper Division Courses

**303. Peoples and Cultures of the World.** (3). A survey of the cultural configurations of nonliterate peoples of aboriginal America, Asia, Oceania and Africa. Prerequisite: Anthro. 124 or 202. A 28 303 0 2202

**305. World Archaeology.** (3). Study of the cultural development beginning with the emergence of culture in hominid evolution and continuing through the major stages of food production, including village farming and urbanization. A 28 305 0 2203

**307. Peoples of Africa.** (3). A description and analysis of the culture areas of Africa south of the Sahara Desert, from ethnohistoric and ethnographic sources. A 28 307 0 2202

**312. Peoples of Asia.** (3). Study of tribal cultures and civilizations of Asia in terms of major culture areas, racial varieties and linguistic patterns. A 28 312 0 2202

**318. Culture and Personality.** (3). The relationship of individual personality, both normal and abnormal, to group membership and cultural configuration. A 28 318 0 2202

**323. Primitive Folklore.** (3). Survey of the oral literature of Africa, the Americas and the Pacific. The role of myths, tales, riddles and proverbs in reflecting a people’s value and world view is explored. A 28 323 0 2202

**327. Primitive Religion.** (3). Cross-listed as Rel. 327. An examination of various concepts concerning the realm of the supernatural as held by primitive people. This course relates such religious and magical beliefs—and the resultant practices—to the larger patterns of cultural context. A 28 327 0 2202

**328. Medical Anthropology.** (3). Medical
anthropology studies the health beliefs and behaviors of various human societies, especially in, but not limited to, those outside the western, scientific tradition. Attitudes toward the etiology of disease, the techniques of healing, the use of curative drugs and other agents, the roles of healers and therapists, and the attitudes of the community toward the ill are among the areas covered. A 28 322 0 2202

335. Archaeology of North America. (3). 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. A 28 335 0 2203

361. Law, Politics and Society. (3). The study of legal and political systems in non-Western societies. Topics covered include the origin of the state, precolonial law and politics, the impact of colonialism, and problems in state building. A 28 361 0 2202

498. Readings in Anthropology. (2-3). Repeatable up to 6 hours. Special problems in anthropology. Prerequisite: 12 hours of anthropology. A 28 498 3 2202

Courses for Graduate/Undergraduate Credit

501. Approach to Archaeology. (3). An introduction to the problems of studying past cultures. Special attention is focused on methodology and techniques available to archaeologists and the theoretical rationale leading to sound interpretations of the structure of extinct cultures. Prerequisite: Anthro. 124 or 201 or equivalent. A 28 501 0 2203

502. Introduction to Archaeological Laboratory Techniques. (1-3). Maximum of three hours. An introduction to the laboratory processing of archaeology materials. Students will obtain 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. Prerequisites: Anthro. 124, 201 or 205. A 28 502 9 2203

506. Peoples of the Pacific. (3). A survey of the races, languages and cultures of nonliterate peoples of Polynesia, Micronesia and Indonesia. A 28 506 0 2202

508. Ancient Civilizations of the Americas. (3). A cultural survey of the Aztec, Maya and Inca. Prerequisite: Anthro. 124 or 202. A 28 508 0 2212

511. The Indians of North America. (3). A survey of tribal societies and native confederations north of Mexico from the prehistoric through the historic period. Prerequisite: Anthro. 124 or 201 or equivalent. A 28 511 0 2212

513. Archaeology of East Asia. (3). A broad survey of archaeology throughout eastern Asia from the early hominid fossils at Peking and Java to the development of Chinese and Southeast Asian civilizations. Special attention will focus on China (through the Han Dynasty), Southeast Asia and Australia/New Guinea. Recent archaeological finds of the Peoples Republic of China will be included. Prerequisite: one 3 hour course in archaeology or consent. A 28 513 0 2203

514. Anthropological Perspectives in Gerontology. (3). Cross-listed as Geron. 514. An anthropological analysis of the latter stages of the life cycle with historical and cross-cultural perspectives. Prerequisite: Anthro. 100G or 124 or Soc. 211. A 28 514 0 2202

519. Applying Anthropology. (3). The application of anthropological knowledge in the solution of social problems in industry, public health and public administration. Prerequisite: Anthro. 124 or 202. A 28 519 0 2202

521. Performing Arts in Other Cultures. (3). The performing arts are highly developed in many cultures around the world in dance, music, song and in the dramatic presentations of ceremony and pageantry. These will be studied on film, tape, and records and in live performances available locally. Prerequisite: Anthro. 124 or 202 or instructor's consent. A 28 521 0 2202

522. Primitive Art. (3). A survey of the arts of preliterate peoples, with special attention to their function in the cultural setting. Prerequisite: Anthro. 124 or 202. A 28 522 0 2202

525. Culture Change and Modernization. (3). Examination of the dynamics of socio-cultural change in the past and present with emphasis on processes of modernization in non-industrial societies. Prerequisite: 6 hours of anthropology. A 28 525 0 2202

526. Social Organization. (3). A survey of the varieties of social organization among nonindustrialized peoples throughout the world. This course deals with family systems, kinship, residence patterns and lineage, clan and tribal organizations. Prerequisite: 6 hours of anthropology. A 28 526 0 2202
531. Culture and Physical Man. (3). An exploration of the intimate relationship between cultural practices and biological attributes of human populations. The course will interrelate human biological and cultural evolution to the present and probable future. Prerequisite: Anthro. 201 or equivalent. A 28 531 0 2202

538. Early Man in the New World. (3). A critical examination of facts and theories concerning early man in the New World, from the peopling of the continent to the beginning of the Archaic Tradition, and of the role of cultural contacts between eastern Asia and North America. Prerequisite: Anthro. 124 or 201, or equivalent. A 28 538 0 2203

540. The Indians of the United States: Conquest and Survival. (3). An anthropological inquiry into four centuries of cultural contact, conflict, resistance and resurgence. Prerequisite: Anthro. 124 or 201, or equivalent. A 28 540 0 2212

542. Women in Other Cultures. (3). Cross-listed as WS 542. A course dealing with the place of women in primitive and other non-Western societies, in various aspects of culture: political, economic, social, religious, domestic, intellectual, psychological and aesthetic. Societies are compared and contrasted in order to see how different kinds of roles for women are related to different kinds of societies. A 28 542 0 2202

545. Economic Anthropology. (3). The study of methods of production, division of labor, organization of markets, concepts of money and property allocation in tribal societies. An emphasis is placed on kinship units as units of consumption and production. Prerequisite: 6 hours of anthropology. A 28 545 0 2202

546. Peasant Society. (3). A cross-cultural survey of anthropological studies of peasant societies in Asia, Europe, Latin America and other areas. Emphasis is placed on the nature of peasant societies as compared with tribal or industrial societies. Prerequisite: 6 hours of anthropology. A 28 546 0 2202

555. Fossil Evidence for Human Evolution. (3). A detailed examination of man's evolutionary history as evidenced by fossil remains and a survey of various interpretive explanations of the fossil record. Prerequisite: Anthro. 201 or Biol. 233 or equivalent. A 28 555 1 2202

556. Human Variability. (3). A critical examination of the biological aspects of contemporary human variation, stressing human adaptations. Prerequisites: Anthro. 201 and Biol. 100. A 28 556 1 2202

557. Human Osteology. (3). A course dealing with human skeletal and dental materials, with applications to both physical anthropology and archaeology. Topics in lecture and extensive laboratory sessions include bone and tooth identifications, measurement and analysis and skeletal preservation and reconstruction. Individual projects are undertaken. Prerequisite: Anthro. 201 or equivalent. A 28 557 0 2202


580. Human Paleoecology. (3). A thorough review of the ecological approach to culture history through the practice of archaeological and multidisciplinary studies. Problem formulation, specialized techniques, and interpretation will be emphasized. Prerequisite: Anthro. 501 or equivalent or instructor's consent. A 28 580 0 2203

597. Topics in Anthropology. (3). Detailed study of topics in anthropology, with particular emphasis being established according to the expertise of the various instructors. A 28 597 3 2202

600. Forensic Anthropology. (3). Cross-listed as AJ 600. The course encompasses the area of criminal investigation involving biological evidence: blood, hair, fingerprint, dentition and skeletal system. It covers procedures of collection, preservation, marking, transportation, referral, laboratory analysis, classification and identification, with a emphasis on anthropological interpretation. A 28 600 0 2202

602. 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: Anthro. 502 and instructor's consent. A 28 602 9 2203

605. Africa in the Modern World. (3). A study of modern African societies undergoing social and cultural change. Following several decades of colonialism, they are becoming nation-states, and the proc-
essses of change are having profound effects on traditional African societies and their institutions. Prerequisite: Anthro. 124 or 202. A 28 605 0 2202

606. Museum Methods. (3). An introduction to museum techniques relating to the acquisition of collections and related procedures, such as accessioning, cataloging, documentation, presentation and storage. Emphasis is placed on current trends in museological philosophy concerning purpose, function and relevance of museums, as well as career opportunities. Prerequisite: instructor's consent. A 28 606 5 2202

607. Museum Exhibition. (3). Contemporary philosophy of exhibition design and the application of recent concepts to the planning and installation of exhibitions. Prerequisite: Anthro. 606 or instructor's consent. A 28 607 5 2202

611. Southwestern Archaeology. (3). A comprehensive survey of the prehistoric, historic and living cultures of the American Southwest, with particular emphasis on the cultural continuities and changes covering 12,000 years. Prerequisites: 6 hours of anthropology and departmental consent. A 28 611 0 2212

612. Indians of the Great Plains. (3). An investigation of the cultural dynamics of the Great Plains area, from the prehistoric period to the present. Prerequisites: 6 hours of anthropology and departmental consent. A 28 612 0 2212

613. Archaeology of the Great Plains. (3). The archaeology of the Great Plains area from the earliest evidence into the historic period. Prerequisite: 6 hours of anthropology including at least one archaeology course. A 28 613 0 2212

636. Advanced Studies in Archaeology and Ethnohistory. (3). Special area and theory problems in a historical approach to culture. Prerequisites: 6 hours of anthropology and departmental consent. A 28 636 0 2202

647. Theories of Culture. (3). A survey of the main theoretical movements in cultural anthropology, including both historical and contemporary schools of thought. Prerequisite: 6 hours of anthropology. A 28 647 0 2202

648. Contemporary Theories in Anthropology. (3). This course deals with developments in anthropological theory since World War II: neoevolution, cultural ecology, ethnoscience (componential analysis, cognitive anthropology), structuralism, ethology, radical anthropology and others. Prerequisite: 6 hours of anthropology. A 28 648 0 2202

651. Language and Culture. (3). Cross-listed as Ling. 651. An introduction to historical and descriptive linguistics. The course deals with the ethnography of communications, lexicostatistics and linguistic determination. Prerequisite: 6 hours of anthropology. A 28 651 0 2202

656. Advanced Physical Anthropology. (3). An in-depth coverage of selected topics in physical anthropology, including population dynamics, primatology, growth and development, and current research methods. Prerequisite: Anthro. 201 or instructor's consent. A 28 656 0 2202

667. Aspects of Linguistic Theory. (3). Cross-listed as Eng. 667 and Ling. 667. Examination of aspects of the structure of English and their relation to linguistic theory. Prerequisite: Eng. 315 or Ling. 577, or Anthro. 577 or instructor's consent. A 28 667 0 1505

690. Field Methods in Anthropology. (3-8). A maximum of 6 hours can be counted as anthropology hours toward either degree. A course that instructs the student in archaeological and ethnological field methods through actual participation in a field research program. The project depends upon the specific Summer Session and varies from year to year. Prerequisite: instructor's consent. A 28 690 2 2202

749. Educational Anthropology. (3). A course dealing with the basic concepts of anthropology and their application to social science units in the elementary and secondary schools. The course explores the nature of subcultures in American society and the problems they pose for the classroom teacher. A course for education majors and graduate students. Cannot be used to meet requirements of the General Education Program for anthropology. A 28 749 0 2202
750. Workshop, (1-4). Short-term courses with special focus on anthropological problems. Prerequisite: instructor's consent. A 28 750 2 2202

760. Urban Anthropology, (3). Comparative study of urbanization in non-Western societies (emphasis on sub-Saharan Africa). Prerequisite: 6 hours of anthropology or urban affairs, or instructor's consent. A 28 760 0 2202

Courses for Graduate Students Only

801. Seminar in Archaeology, (3). Comprehensive analysis of archaeological data, with emphasis on theoretical problems of interpretation and reconstruction. Repeatable up to 6 hours. Prerequisite: Anthro. 501 or departmental consent. A 28 801 9 2203

802. Methods in Anthropology, (2-3). Designed to develop abilities in the conception and investigation of anthropological problems, interview and observation techniques, as well as more specialized methods such as photography, mapping and tape recording. Repeatable up to 6 hours. Prerequisite: departmental consent. A 28 802 9 2202

820. Seminar in Physical Anthropology, (3). Analysis of fossil, skeletal and modern biological differences among people. Emphasis is placed on methods and techniques of analysis with a consideration of current interpretive models. Prerequisite: Anthro. 556, or 557 or departmental consent. A 28 820 9 2202

837. Seminar in Cultural Anthropology, (3). Intensive study of advanced theoretical questions in cultural anthropology. Repeatable up to 6 hours. Prerequisite: 5 hours of anthropology. A 28 837 9 2202

847. Colloquium in Anthropology, (1-2). Repeatable for a maximum of 3 hours. To provide graduate students with seminar-style experience in recent research in all of the subfields of anthropology. Course will also allow those students preparing their first papers for presentation at professional conferences to present them before a critical but friendly audience. Students presenting colloquium papers will receive two credits. Prerequisite: graduate standing in anthropology. A 28 847 9 3303

848. Recent Developments in Anthropology, (3). A review of the latest discoveries and interpretations in the science of man. Repeatable up to 6 hours. Prerequisite: 5 hours of anthropology. A 28 848 9 2202

870. Independent Reading, (2-3). Repeatable up to 6 hours. Prerequisite: departmental consent. A 28 870 3 2202

875-876. Thesis. (2-2). A 28 875 4 2202; A 28 876 4 2202

Art History—Major
See College of Fine Arts for requirements and curriculum.

Art Studio—Major
See College of Fine Arts for requirements and curriculum.

Biological Sciences

Major. A major in biology leading to the Bachelor of Arts (BA) requires a minimum of 30 hours of biology, and a major in biology leading to the Bachelor of Science (BS) requires a minimum of 40 hours of biology. The courses taken by the student in fulfilling the requirements of either degree must include Biol. 113, 114, 416, 417, 418 and 584. Aspirants to either degree must also take Chem. 111, 112 and 531. Students pursuing a BA may take 41 hours of biology for credit, while those pursuing a BS may take 50 hours of biology for credit.

Fairmount College/Biological Sciences 321
Minor. A minor in biology requires at least 16 hours and must include Biol. 113, 114 and any two of Biol. 416, 417 or 418.

Service Courses. The Department of Biological Sciences offers service courses designed primarily to meet the needs of students in other departments. Biology majors can receive credit for biology service courses 225, 226, 470, 518, 570. However, these courses cannot comprise more than one-half the total hours acquired beyond the 24-hour core requirement.

Lower Division Courses

100G. Principles of Biology. (4). A course designed to acquaint nonscience majors with some of the fundamental principles of biological science. Correlations between basic biological concepts and the place of humankind in the biosphere are stressed. The program of instruction is supplemented and reinforced with laboratory experience. Credit will not count toward a major or minor in biology. Credit will not be given for both Biol. 100G and 102G. A 12 100G 0 0401

102G. Biological Science. (5). Man in the living world: an introduction to the basic concepts of the biological sciences, with emphasis upon man himself. A 12 102G 0 0401

113. Introductory Biology I. (5). 3R; 4L. Fundamentals of life science presented in terms of broadly based conceptual principles that apply to all living things. Prerequisite: concurrent enrollment in freshman chemistry is recommended. A 12 113 0 0401

114. Introductory Biology II. (5). 3R; 4L. A continuation of Biol. 113 that builds on the concepts presented in the first course. Prerequisites: Biol. 113 and concurrent enrollment in freshman chemistry is recommended. A 12 114 0 0401

120. Introduction to Microbiology. (4). 3R; 2L. Service course. Fundamentals of microbiology, with emphasis on microorganisms important in sanitation and disease. A 12 120 0 0411

150. Biology Workshop. (I-3). A 12 150 2 0401


Upper Division Courses


417. Biology of Organisms. (3). Anatomy, physiology, life history and other properties of life considered at the organismic level of biological organizations. Prerequisite: Biol. 114. A 12 417 0 0401

418. The Biology of Ecosystems. (3). Principles underlying the interrelationships of living organisms and their environment, from the biosphere to the population level of organization. Prerequisite: Biol. 114. A 12 418 0 0420


Courses for Graduate/Undergraduate Credit

500. Nonvascular Plants. (4). 2R; 6L. An introduction to the structure, reproduction and evolution of the algae, fungi and bryophytes. Special emphasis is placed on cytology and physiology. Prerequisite: Biol. 114. A 12 500 0 0402

* Biol. 113 and 114 are new courses replacing Biol. 111, 112 and 201.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 3L means 3 hours of lecture and 3 hours of lab.
502. Vascular Plants. (4). 2R; 6L. An introduction to the structure, reproduction and evolution of the major groups of living and extinct vascular plants. An introduction to flowering plant systematics is included. Prerequisite: Biol. 114. A 12 502 0 0402

504. Plant Physiology. (5). 3R; 6L. The functional dynamics of plant metabolism and growth, including water relations, nutrition, translocation, photosynthesis, respiration and various aspects of development. Prerequisites: Biol. 114 and Chem. 531. A 12 504 0 0406

509G. Foundations of Human Heredity. (4). Introduction to the mechanisms and societal significances of developmental, transmission and population genetics of humans. Attention given to inborn errors of metabolism and development and the roles of genetic counseling and genetic engineering in their management. Course is intended for students majoring outside of the natural sciences and does not carry credit toward a biology major or minor. Prerequisite: junior standing. A 12 509G 0 0417

518. Biology of Aging. (3). Cross-listed as Geron. 518. Service course. An introduction to the phenomenon of aging, including a survey of age-related processes and mechanisms of senescence, with emphasis on man. Prerequisite: a basic course in biology that will satisfy the general education requirement is recommended. A 12 518 0 0410

520. Invertebrate Zoology. (4). 3R; 3L. A comparative study of the morphology and phylogeny of the invertebrates, with emphasis on the basic body types and their major variations. Prerequisite: Biol. 114. A 12 520 0 0407

524. Vertebrate Zoology. (4). 2R; 4L. Evolution, distribution, systematics, natural history and special characters of vertebrate animals. Prerequisite: Biol. 114. Biol. 527 is also recommended. A 12 524 0 0407

527. Comparative Anatomy. (5). 3R; 4L. An intensive study of representative chordates with emphasis on vertebrate anatomy. Prerequisite: Biol. 114. A 12 527 0 0412

528. Parasitology. (3). 1R; 6L. The parasites of man and other vertebrate hosts. Prerequisite: Biol. 114. A 12 528 0 0407

532. Entomology. (5). 3R; 4L. An introduction to the morphology, physiology, life cycles, behavior, ecology and economic significance of insects. Prerequisite: Biol. 114. A 12 532 0 0421

534. Mammalian Physiology. (3). A survey of mammalian physiology, with emphasis on human systems. Prerequisites: Biol. 114 and Chem. 531 or departmental consent. A 12 534 0 0410

535. Mammalian Physiology Laboratory. (3). 4L. A practical approach to the basic physiology of mammalian systems. Prerequisite or concurrent enrollment in: Biol. 534. A 12 535 1 0410

538. Neurophysiology and Neuroanatomy. (4). 2R; 4L. An examination of the anatomy and physiology of the nervous system, with special emphasis on humans. Prerequisite: Biol. 534 or departmental consent. A 12 538 0 0410

540. Comparative Embryology. (4). 2R; 4L. Gametogenesis, fertilization and developmental processes in animals, with emphasis on vertebrates. Prerequisite: Biol. 114. Biol. 527 is also recommended. A 12 540 0 0427

544. Histology. (5). 2R; 6L. Microscopic anatomy of animal tissues, with practical experience in laboratory histological techniques. Prerequisite: Biol. 114. A 12 544 0 0413


552. Mycology. (4). 2R; 4L. The structure, development and reproduction of fungi, with emphasis on the cytology and physiology of forms of scientific and economic importance. Prerequisite: Biol. 114. A 12 552 0 0411

570. Ecology and Man. (3). Service course. An introduction to the fundamentals of ecology, with emphasis on man as a part of the environment. Does not meet general education requirements. A 12 570 0 0420

575. Field Ecology. (3). 9L. Techniques for analysis of systems consisting of living organisms and their environments. Field trips are required. Prerequisite or corequisite: Biol. 574 or instructor's consent. A 12 575 1 0420

578. Limnology. (5). 2R; 6L. Introduction to the biological and physical processes that operate in lakes, streams and estuaries. Assigned readings, individual projects and field trips are required. Pre-
580. Cytology. (3). 2R; 3L. The structure, chemistry, development and function of the cell. Prerequisite: Biol. 114. A 12 580 0 0417

584. Genetics. (5). The mechanisms of heredity and variation in plants and animals with a critical review of the concept of the gene. Prerequisite: Biol. 114. A 12 584 0 0422

590. Immunobiology. (3). The nature of antigens and antibodies and their interactions. Cellular and humoral aspects of immunologic phenomena are included. Prerequisites: Biol. 114 and Chem. 531. A 12 590 0 0416

591. Immunobiology Laboratory. (3). 6L. Methods of immunization and techniques for qualitative and quantitative determinations of antibody production and antigen-antibody reactions. Prerequisites or corequisites: Biol. 590, Chem. 532 or instructor's consent. A 12 591 1 0416

594. Analytical Methods in Biology. (2). 1R; 3L. The principles, capabilities and applications of modern techniques of instrumental measurement in biological research and teaching. Prerequisites: Biol. 114, Chem. 531 and Phys. 214. A 12 594 1 0499

600. Physiology Plant Ecology. (4). 2R; 6L. Principles and patterns of plant distribution and of adaptations of plants to particular habitats. Emphasis is put on the experimental approach to ecology. Field trips are an integral part of the laboratory. Prerequisite: Biol. 504 or instructor's consent. A 12 600 0 0420

610. Topics in Botany. (2). Repeatable once for credit. Prerequisite: instructor's consent. A 12 610 4 0402

620. Animal Behavior. (3). A survey of animal behavior, including human, with major emphasis on the analysis of behavior as a concert of physiological processes. Prerequisite: Biol. 114 or departmental consent. A 12 620 0 0407

621. Animal Behavior Laboratory. (2). 6L. Individual or team research projects in the area of behavior. Prerequisite or corequisite: Biol. 620. A 12 621 1 0407

630. Sociobiology. (3). A systematic study of the biological basis of social behavior. The course focuses on animal societies, their population structure, castes and communication, and the underlying physiology. Prerequisite: Biol. 114 or departmental consent. A 12 630 0 0407

635. Chemistry of Living Organisms. (3). An organism-oriented treatment of the chemistry of living systems. The course examines the structure of macromolecular constituents at all levels of organization, as well as the chemistry of metabolic processes, cellular differentiation, and intra- and intercellular regulatory mechanisms. Prerequisites: Biol. 416 and Chem. 531. A 12 635 0 0414

640. Topics in Zoology. (2). Repeatable once for credit. Prerequisite: instructor's consent. A 12 640 4 0407

650. Protozoology. (4). 2R; 6L. Survey of the free living and parasitic protozoa, with identification, life cycles and host-parasite relationships emphasized. Prerequisite: Biol. 114. A 12 650 0 0411

654. Pathogenic Microbiology. (4). 3R; 3L. An introduction to the important pathogenic microorganisms and their relationships to health and disease in man. Prerequisite: Biol. 550. A 12 654 0 0411

658. Microbial Physiology. (3). The physiology and metabolism of microorganisms. Prerequisites: Biol. 550 and Chem. 531. A 12 658 0 0411

659. Microbial Physiology Laboratory. (3). 6L. An introduction to the basic techniques involved in the study of microbial physiology. Prerequisites: Biol. 550 and Chem. 531. A 12 659 1 0411

660. Topics in Microbiology. (2). Repeatable once for credit. Prerequisite: instructor's consent. A 12 660 4 0407

670. Biological Literature. (2). An introduction to the use of biological literature and the preparation of reports. Prerequisite: 20 hours of biology. A 12 670 0 0499

684. Genetics Laboratory. (3). 9L. Use of viruses, bacteria, fungi and Drosophila to illustrate principles of mutagenesis, gene action, recombination and population dynamics. Prerequisites: Biol. 550 and 584. A 12 684 1 0423

724. Special Problems in Animal Behavior. (3). Topics such as spontaneity, drive, rhythms, instinct, behavioral plasticity, behavior genetics and the evolution of behavior receive special emphasis. Prerequisite: Biol. 620 or instructor's consent. A 12 724 0 0407

728. Physiological Basis of Behavior. (3). A modern approach to coordinative mechanisms that stresses the essential unity of nervous and endocrine function.
Prerequisite: Biol. 730 or instructor's consent. A 12 728 0 0410

730. Comparative Animal Physiology. (3). A phylogenetic examination of the homologous and analogous ways in which animals perform similar functions. Prerequisite: Biol. 534 or departmental consent. A 12 730 0 0410

750. Biology Workshop. (1-3). A 12 750 2 0401

752. Microbial Metabolism. (3). Studies of the degradative and biosynthetic metabolic pathways of representative bacteria, yeasts and higher fungi. Prerequisite: Biol. 550 or instructor's consent. A 12 752 0 0411

756. Microbial Genetics. (4). The relationship between development, metabolism and genetics in microorganisms. Prerequisites: Biol. 550 and 584 or departmental consent. A 12 756 0 0422

770. Special Problems in Ecology. (5). 2R; 6L. Emphasis on conservation of natural resources, land and water use, wildlife and fisheries management, and effects of pollution. Assigned readings, individual projects and field trips are required. Prerequisites: Biol. 574, 575 and 578 or instructor's consent. A 12 770 1 0420

780. Biochemical Genetics. (3). Studies of the physiochemical nature of genetic material and the mechanisms of genetic regulation of metabolism. A 12 780 0 0422

790. Advanced Immunology. (3). Contemporary problems in immunologic research. Lectures, assigned readings and reports are included. Prerequisites: Biol. 590 and instructor's consent. A 12 790 0 0416

798. Biology Seminar. (2). Reviews of current research in biology. Repeatable once for credit. Prerequisite: Biol. 670 or instructor's consent. A 12 798 9 0401

Courses for Graduate Students Only

880. Radiation Biology. (3). Mechanisms of the genotypic and nongenetic effects of radiation on unicellular and multicellular systems. Surveys of the physical properties of radiations and of radiation chemistry are included. Prerequisite: instructor's consent. A 12 880 0 0423

890. Research. (2-5). Research opportunities offered in botany, microbiology and zoology. A maximum of 12 hours may be taken for credit. A 12 890 4 0499

891. Thesis. (2). A 12 891 4 0499

Chemistry

Major. Students desiring the Bachelor of Arts (BA) must take Chem. 524, 532, 545, 546, 547, 615 and their necessary prerequisites, which include Math. 344 and Phys. 312, or their equivalents. Students with a substantial interest in the biological sciences may satisfy the BA requirements by substituting Chem. 662 and 664 or 663 and 664 for Chem. 524 (then Chem. 523 is required) or by substituting Chem. 662 or 663 for Chem. 546 (then Chem. 545 is required).

Students desiring the Bachelor of Science (BS) must take Chem. 524, 532, 545, 546, 547, 615 and their necessary prerequisites: which must include Math. 344 and Phys. 312, or their equivalents. Students must take a minimum of 8 hours from 600- and/or 700-level courses and from Chem. 499 with at least 1 credit hour of laboratory. A reading knowledge (or two semesters) of German is required. Courses in physics and mathematics beyond the minimum are strongly recommended.

In agreement with the American Chemical Society Committee on Professional Training, the chemistry department strongly encourages
the BS student to select courses to acquire some knowledge and understanding of 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 meets the standards of the American Chemical Society in the professional training of chemists, and students completing the program receive certification from the American Chemical Society. Students who meet the requirements of the BA program may be certified by the American Chemical Society if they also take Chem. 614, 642 or 643.

All students majoring in chemistry should consult closely with the chemistry department in planning their programs. Students should plan their programs so that physical chemistry courses—Chem. 545 and 546—are taken during their junior year.

Students may elect to participate in a chemical physics option, a joint program of the Departments of Chemistry and Physics. In addition to the requirements for the BS, students are expected to take 6 hours of upper division physics courses from Phys. 551, 621, 631, 712, 714 or other approved courses. All students participating in the option are expected to take Chem. 642.

Minor. The chemistry minor consists of at least 14 hours of chemistry and must include at least 4 hours from Chem. 523, 531 and 545.

Noncredit Course

011. Fundamentals of Chemistry. (2). For students with little or no experience in science. The fundamental topics from high school science that will provide background for the study of university-level chemistry. Emphasis is on techniques for solving problems. Topics include the scientific method, the metric system, matter, energy, atoms, molecules, bonding, the periodic table, nomenclature, chemical equations, stoichiometry and aqueous solutions. Not applicable to degree. (Note: This course is not a prerequisite for Chem. 111 or 103, and students who are well prepared in mathematics are encouraged to enroll in Chem. 111 or 103 directly whether or not they have taken high school chemistry. Prerequisite or corequisite: 1½ units of high school algebra or Math. 011. A 13 101G 0 1905

103. General Chemistry. (5). 3R; 4L. A survey of inorganic, organic, nuclear and biological chemistry. The course is 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. 111-112 sequence. Credit will not be granted for both Chem. 103 and 111. Prerequisite: one year of high school algebra or Math. 011. A 13 103 0 1905

111. General Chemistry. (5). 3R; 4L. An introduction to the general laws of chemistry. Atoms, molecules, chemical arithmetic, gas laws, reactions, acids, bases, titrations, thermochemistry, phase equilibria, solutions and atomic and molecular structure are included. The Chem. 111-112 course sequence is designed to meet the needs of natural science majors and is not recommended for students who plan
to take only one course in chemistry. Students who have had good high school preparation in chemistry and mathematics should consider the alternate afforded by Chern. 123-124. Credit will not be granted for both Chern. 103 and 111. Prerequisite: 1½ units of high school algebra or Math. 011. A 13 111 0 1905

112. General and Inorganic Chemistry. (5). 3R; 4L. Continuation of Chern. 111. Thermodynamics, gaseous and ionic equilibria, kinetics, nuclear chemistry, electrochemistry, qualitative analysis and an introduction to organic chemistry are included. Prerequisite: Chem. 111 with a grade of C or better. A 13 112 0 1905

123. General and Analytical Chemistry. (5). 3R; 6L. An introduction to atoms, molecules, chemical arithmetic, gas laws, phase and ionic equilibria, and electrochemistry. A laboratory introduction to quantitative analysis, the course includes much of the material ordinarily presented in Chern. 523 and the use of a small digital computer in chemical computations. Students who successfully complete the Chern. 123-124 sequence are not required to take Chern. 523. Prerequisites: 1½ units of high school algebra and 1 unit of high school chemistry. A 13 123 0 1905

124. General and Analytical Chemistry. (5). 3R; 6L. Atomic and molecular structure, thermodynamics, kinetics and nuclear chemistry. Prerequisite: Chem. 123 with a grade of C or better. A 13 124 0 1905

201. Glass Blowing. (1). 2L. A laboratory course utilizing the principles and techniques of glass blowing for the production of scientifically useful equipment. Prerequisite: recommendation of the chemistry department. A 13 201 1 1905

361. Introduction to Biological Chemistry. (3). Provides students in the health related professions with a modern background in introductory biological chemistry. Prerequisite: Chem. 103 or 112. A 13 361 0 0414

Upper Division Course

499. Independent Study and Research. (2-3). Studies performed must be directed by a faculty member in the chemistry department. Repeatable for credit. A maximum of 3 credit hours may be counted toward graduation. Prerequisite: consent of the chemistry department. A 13 499 4 1905

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 4L means 3 hours of lecture and 4 hours of lab.

Courses for Graduate/Undergraduate Credit

523. Analytical Chemistry. (4). 2R; 6L. Evaluation of data, theory and application of gravimetric analysis and precipitation, neutralization and oxidation-reduction volumetric analysis. Prerequisite: Chem. 112 with a grade of C or better. A 13 523 0 1909

524. Instrumental Methods of Chemical Analysis. (4). 2R; 6L. Introduction to electroanalytical chemistry and optical methods of analysis and analysis and separation of complex mixtures, both inorganic and organic. Prerequisite: Chem. 523 or 124. A 13 524 1 1909

531. Organic Chemistry. (5). 3R; 6L. An introduction to the study of carbon compounds, with emphasis upon reaction mechanisms, stereochemistry and spectrographic analysis. Prerequisite: Chem. 112 or 124 with a C or better. A 13 531 0 1907

532. Organic Chemistry. (5). 3R; 6L. A continuation of Chem. 531 with emphasis upon the structures and reactions of principle functional groups and compounds of biological interest. Prerequisite: Chem. 531. A 13 532 0 1907

533. Elementary Organic Chemistry. (3). Basic organic chemistry with a special emphasis on topics of importance to health related professions and education majors. Special emphasis is given to carbohydrates, proteins, drugs, pesticides and energy production. Students should also enroll in Chem. 534 simultaneously. Credit is not allowed for both Chem. 533-534 and 531. This course will not meet the needs of chemistry majors or premed students. Prerequisite: Chem. 112 or equivalent. A 13 533 0 1907

534. Elementary Organic Chemistry Laboratory. (2). A basic laboratory course to provide pertinent experiences in the laboratory to fortify the survey lecture course Chem. 533. Prerequisite or corequisite: Chem. 533. A 13 534 1 1907

545. Physical Chemistry. (3). Thermodynamics. Gases, first law, thermochemistry, second and third laws, phase equilibria, solutions, chemical equilibria, electrochemistry and surface chemistry are studied. Prerequisites: Chem. 112, Math. 344, or its equivalent, and one semester of college physics. A 13 545 0 1908
546. Physical Chemistry. (3). Kinetic theory, kinetics, transport phenomena, quantum mechanics, spectroscopy and statistical thermodynamics. Prerequisites: one year of college physics and Math. 344. A 13 546 0 1908

547. Physical Chemistry Laboratory. (2). 6L. Physical chemistry experiments that illustrate principles learned in Chem. 545 and 546. Prerequisite: Chem. 545 or 546. A 13 547 1 1908

602. Numerical Methods. (2). 1R; 3L. Applications 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: departmental consent. A 13 602 0 1905

613. Inorganic Chemistry Laboratory. (2). 6L. Experimental methods of inorganic chemistry. Prerequisite: Chem. 614 or concurrent enrollment. A 13 613 1 1906

614. Chemical Bonding. (2). Molecular symmetry, structure and bonding of inorganic compounds. Prerequisite: Chem. 546. A 13 614 0 1906

615. Inorganic Chemistry. (2). Periodicity and trends of the elements, coordination chemistry and properties of inorganic compounds. Prerequisite: Chem. 614. A 13 615 0 1906

624. Advanced Analytical Chemistry. (3). 2R; 3L. Fundamentals of absorption and emission spectroscopy, light scattering techniques, mass spectrometry, nuclear magnetic resonance, polarography, voltammetry and coulometry. Prerequisite: Chem. 524. A 13 624 0 1909

625. Electronics. (2). 1R; 4L. Provides a working knowledge of electronic devices and circuits for the student or research worker who has little or no background in electronics. Prerequisite: instructor's consent. A 13 625 0 1909

633. Organic Techniques. (3). 1R; 6L. The theory and practice of organic chemical preparations. The methods of separation and purification by crystallization, distillation, extraction and chromatography are emphasized. Physical methods of characterization of pure compounds are covered. Prerequisites: Chem. 532 and instructor's consent. At least one semester of physical chemistry is recommended in addition to the prerequisites listed. A 13 633 0 1907

634. Qualitative Organic Analysis. (3). 1R; 6L. Identification of organic compounds. Prerequisite: instructor's consent. A 13 634 0 1907

641. Advanced Physical Chemistry. (3). Introduction to quantum chemistry, atomic and molecular spectra, statistical thermodynamics and reaction rate theory. Prerequisite: Chem. 546. A 13 641 0 1908

642. Chemical Physics. (3). Topics in areas of overlapping interest for students of chemistry and physics, such as thermodynamics, kinetics, quantum mechanics, solids and various types of spectroscopy. Staudard experimental and theoretical techniques used in research in chemical physics are discussed by a team of chemists and physicists. Prerequisite: Chem. 641 or instructor's consent. A 13 642 0 1908

662. Biochemistry of Cell Constituents, Catalysis, Oxidation, Photosynthesis. (3). Study of major constituents of the cell; protein, carbohydrate, glycoprotein, lipid, nucleic acid, nucleoprotein; enzyme catalysis; biological oxidations; photosynthesis; and introduction to intermediary metabolism. A fundamental background of biology or microbiology is recommended but not essential. Prerequisites: Chem. 523 and 532 or equivalents. A 13 662 0 0414

663. Biochemistry of Cell Metabolism, Biosyntheses, Structure, Function and Regulation of Proteins and Nucleic Acids. (3). Study of metabolism and control of carbohydrates, lipids, phosphoglycerides, sphingolipids, sterol, amino acids, and proteins; synthesis of porphyrins, amides and polyamines; synthesis and metabolism of purines, pyrimidines and nucleotides; synthesis and structure of DNAs, RNAs and proteins; organization and functioning of genes; evolution of proteins and nucleic acids; hereditary disorders of metabolism; biochemistry of endocrine glands; major nutrients and vitamins, body fluids and generalized tissues. A fundamental background of biology or microbiology is recommended but not essential. Prerequisites: Chem. 523 and 532 or equivalents. A 13 663 0 0414

664. Biochemistry Laboratory. (2). 1R; 3L. Study of basic techniques of both biochemistry and clinical laboratory. Assay techniques of common biological isotopes and application of radioisotopes in vivo biochemical reactions. Clinical diagnosis of blood and urine for important enzymes and metabolites. Structure—function of nucleic acids and proteins; isolation, purification, fragmentation and sequencing; separation and study of cellular organ-
elles. Prerequisites: Chem. 523 and 532 or equivalents. A 13 664 0 0414

700. Chemistry Seminar. (1). Seminars are given by students on either papers recently published in the literature or on their own research. Repeatable for credit. A 13 700 9 1905

701. Chemistry Colloquium. (1). Speakers for the colloquium consist of outstanding chemists from other institutions and faculty. Repeatable for credit. A 13 701 9 1905

705. Molecular Symmetry. (1). A study of the chemically relevant aspects of group theory. Topics include symmetry elements, character tables, symmetry classification of molecules and representations of groups. A 13 705 0 1905

709. Special Topics in Chemistry. (2-3). A discussion of topics of special significance and interest to faculty and students. Offerings will be announced in advance. Repeatable for credit. A 13 709 0 1905

711. Theoretical Inorganic Chemistry. (3). A presentation of the theories of bonding, including the application of group theory to valence bond hybridization, molecular orbital theory, crystal field theory, ligand field theory, electronic spectra of coordination compounds and space group symmetries. Prerequisite: Chem. 705 or its equivalent. A 13 711 0 1906

712. Coordination Chemistry. (3). Some aspects and applications of coordination chemistry. An introduction to chemical bonding and absorption spectra in coordination complexes and methods for the determination of stability constants and structure substitution reactions and stereo-chemical changes of octahedral and square planar complexes, oxidation-reduction reactions and metal- ion catalysis are given. A 13 712 0 1906

723. Analytical Spectroscopy. (3). 2R; 3L. Absorption (UV, visible, IR and atomic) and emission (arc, spark and flame), nuclear magnetic resonance and mass spectrometry. Lectures and discussions on theory and practice are given. Selected laboratory experiments illustrate applications to quantitative and qualitative analysis. Particular emphasis is placed upon instrumentation and the acquisition of artifact-free data. A 13 723 0 1909

724. Electroanalytical Chemistry. (3). 2R; 3L. Topics covered in this course are voltammetry, polarography, chromoamperometry and coulometry; reversible and irreversible diffusion controlled processes; CE (chemical reaction before electrical reaction), EC (electrical reaction before chemical reaction) and catalytic reaction; and organic polarography and voltammetry. A 13 724 0 1909

725. Digital Computers in Chemical Instrumentation. (3). An introduction to the use of the small digital computer in the laboratory. Lectures deal with digital logic, data acquisition techniques and the on-line digital computer in instrumentation. Laboratory experience covers the design of digital logic circuits, interfacing chemical instruments to the digital computer and programming the small digital computer. A 13 725 0 1905

731. Advanced Organic Chemistry. (3). A survey of topics of current interest in organic chemistry. Discussions include nomenclature, aromaticity and antiaromaticity, valence-bond isomerization and fluxional structures, name reactions and their mechanisms and species with divalent and trivalent carbon. A 13 731 0 1907

732. Heterocyclic Chemistry. (3). A study of syntheses and typical reactions of saturated and unsaturated heterocycles of various sizes. Emphasis is placed on recent advances in the field. A 13 732 0 1907

735. Physical Organic Chemistry. (3). An examination of molecular orbital theory, conservation of orbital symmetry, linear free energy relationships, acid-base catalysis, acidity functions and their applications to a critical examination of the mechanistic details of a variety of organic reactions. Prerequisite: Chem. 705 or its equivalent. A 13 735 0 1907

736. Structure and Reactivity of Organic Compounds. (3). A study of basic techniques for elucidation of organic reaction mechanisms. Topics include kinetic methods, kinetic isotope effects, medium and salt effects, conformational analysis and other methods for studying the relationship between structure and reactivity. A 13 736 0 1907

737. Synthetic Methods in Organic Chemistry. (3). A review of synthetic methods in organic chemistry. Newer methods are emphasized, and a comparison of their relative merits with regard to scope and stereo chemistry is discussed. Examples are drawn from the field of natural products and from the recent literature to illustrate the applications of these methods. A 13 737 0 1907

738. Structure Determination and Spectral Analysis of Organic Compounds. (3),
A lecture course that covers degradative and spectral techniques used for structure determination of organic compounds. The interpretation of ultraviolet, infrared, nuclear magnetic resonance, electron spin resonance and mass spectra receive special attention. A 13 738 0 1907

741. Quantum Chemistry. (3). Theoretical basis of atomic and molecular structure. Topics to be covered, include 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 Hellmann-Feynman theorems. Corequisite: Chem. 705 or equivalent. A 13 741 0 1908

742. Chemical Kinetics. (3). A description of reacting systems, including the mathematical and experimental characteristics of simple and complex kinetic systems. The theories of chemical kinetics are discussed, as well as the kinetics of homogeneous reactions in the gas phase, the kinetic aspects of solution reactions, heterogeneous reactions and selected topics of current interest. A 13 742 0 1908

743. Introductory Statistical Mechanics. (3). Topics considered in this course include Fermi-Dirac statistics, Bose-Einstein statistics, imperfect gases, grand partition functions and nonequilibrium thermodynamics. A 13 743 0 1908

745. Chemical Thermodynamics. (3). A presentation of the basic three laws of thermodynamics in a classical framework designed to increase one's understanding of real physical systems. The molecular viewpoint is given through Boltzmann statistics. The interrelation between classical thermodynamics and statistical mechanics is discussed. A 13 745 0 1908

746. Molecular Spectroscopy. (3). The theoretical basis for spectroscopy and spectroscopic determinations of molecular structure. Topics to be covered include polyelectronic atoms, 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. A 13 746 0 1908

761. Enzyme Mechanisms. (3). An introduction to the study of enzyme mechanisms. Modern approaches include steady-state, relaxation and chemical modification methods. Prerequisite: Chem. 662 or 663 or equivalent. A 13 761 0 0414

762. Structure and Function of Nucleic Acids. (3). The study of monomers and polynucleotides, including chemical and physical structure, macromolecular organization of RNAs and DNAs, biosynthesis of purines and pyrimidines, replication, gene action, transcription, translation; role, mode of operation and three-dimensional structure of transfer RNAs; protein biosynthesis; modification of biochemical functions of the cell by drugs, cancer and radiation; enzymatic, chemical and physical probes for the study of structure-function interrelationship of nucleic acids; and biochemistry of viruses. Prerequisite: Chem. 662, or 663 or equivalent. A 13 762 0 0414

763. Biophysical Chemistry. (3). A theoretical examination of the methods used in the study of biological macromolecules. Topics include ultracentrifugation, isoelectric focusing, fluorescence, circular dichroism, optical rotary dispersion and light scattering. Prerequisites: Chem. 662 or 663 and 546. A 13 763 0 0414

790. Research in Chemistry. (2-12). Research for the student planning to receive an MS. Research is to be directed by a faculty member. Repeatable for credit. A 13 790 4 1905

Course for Graduate Students Only

990. Research in Chemistry. (2-16). Research for the student planning to receive the PhD. Research is to be directed by a faculty member. Repeatable for credit. A 13 990 4 1905
Communications

Students interested in communications should see the speech, minority studies, linguistics and journalism listings in this *Catalog*. The Master of Arts in Communication (MAC) is offered as an interdepartmental program. Information on the MAC can be found in the *Wichita State University Graduate Bulletin*.

Courses for Graduate Students Only

800. Introduction to Graduate Study in Communication. (3). An integrative approach to an understanding of the basic concepts and components of human communication. The interrelationship of the several communication disciplines will be examined, to include identification of special applications and differences among them. Emphasis is placed on principles of research, basic bibliographical tools and methodologies appropriate for graduate studies in communication, including pilot projects or theses. This course should be taken at the beginning of the graduate program. A 32 800 0 0601

875-876. Thesis. (2-2). A 32 875 4 0601; A 32 876 4 0601

Computer Science

Students can major in computer science while pursuing either the Bachelor of Science in Engineering (BSE) in the College of Engineering, or the Bachelor of Science (BS) or Bachelor of Arts (BA) degree in Fairmount College of Liberal Arts and Sciences. The computer science major under the BSE program is discussed in the College of Engineering section of the *Catalog*.

**Major.** For the Bachelor of Science (BS) in computer science, students must complete a minimum of 36 hours of computer science courses, including CS 420, 485, 501, 510, 540 and 560 and at least 9 more hours of upper division computer science courses.

For the Bachelor of Arts (BA) degree with a major in computer science, students must complete a minimum of 30 hours of computer science courses, including CS 420, 485, 510 and 540 and at least 9 more hours of upper division computer science courses.

In addition, candidates for either the BA or BS degree must complete an approved sequence of 15 hours of electives. (These are designated "sequence electives" in the example programs which follow.) Students majoring in computer science may choose to orient their program toward further study at the graduate level, or toward some particular area of computer science application. The particular orientation is achieved by a judicious choice of sequence electives. For example, an appropriate choice of sequence electives will orient the program toward scientific applications, business applications or graduate study.
in computer science or related areas. For students contemplating graduate study, a sequence including Math. 511, CS 560 (for BA) and CS 580 is highly recommended. Lists of approved sequences for various other orientations can be obtained through the computer science department. Students should consult closely with their department adviser on selection of the sequence electives. The sequence must be approved in advance by the department faculty.

Minor. Students electing to minor in computer science must complete a minimum of 15 hours of computer science courses, including CS 200, 240 and at least 6 hours of upper division work. As with the computer science major, it is recommended that students consult with an adviser in computer science in selecting the courses for the minor.

**Example Schedule for BS in Computer Science**

**FRESHMAN**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Math. 112, Precalculus Mathematics</td>
<td>5</td>
</tr>
<tr>
<td>Phil. 225, Logic</td>
<td>3</td>
</tr>
<tr>
<td>CS 240, Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>Hist. 131 or 132, History of U.S. or Pol.</td>
<td>3-4</td>
</tr>
<tr>
<td>Sci. 121, American Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

16-17

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Math. 211, Elementary Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>CS 200, Introduction to Programming</td>
<td>2</td>
</tr>
<tr>
<td>CS 202, PL/I Language</td>
<td>2</td>
</tr>
<tr>
<td>CS 216, Assembly Language Programming</td>
<td>2</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3-5</td>
</tr>
</tbody>
</table>

15-17

**SOPHOMORE**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Math. 242, Calculus I</td>
<td>5</td>
</tr>
<tr>
<td>CS 340, Computer Organization and Programming</td>
<td>3</td>
</tr>
<tr>
<td>CS 305, File Processing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science elective</td>
<td>3</td>
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</tbody>
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17

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 243, Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>Math. 331, Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CS 300, Fundamental Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CS 203, APL Language</td>
<td>2</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3-5</td>
</tr>
</tbody>
</table>

16-18

**JUNIOR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 510, Programming Language</td>
<td>3</td>
</tr>
<tr>
<td>CS 540, Operating Systems and Architecture I</td>
<td>3</td>
</tr>
<tr>
<td>Sequence elective</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and fine arts elective</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

15

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 485, Debugging Techniques</td>
<td>2</td>
</tr>
<tr>
<td>CS 501, Numerical Programming Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Sequence elective</td>
<td>3</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3-5</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

14-16
### SENIOR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td><strong>Course</strong></td>
</tr>
<tr>
<td>CS 560, Data Structures</td>
<td>CS 420, Concepts of Computer Science</td>
</tr>
<tr>
<td>Sequence elective</td>
<td>Sequence elective</td>
</tr>
<tr>
<td>Humanities and fine arts elective</td>
<td>Elective</td>
</tr>
<tr>
<td>Elective</td>
<td>Elective</td>
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</tbody>
</table>

NOTE: Electives must be carefully chosen so that all department, college and University graduation requirements are satisfied.

### Example Schedule for BA in Computer Science

#### FRESHMAN

<table>
<thead>
<tr>
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</tr>
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<tbody>
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<td>Math. 111, College Algebra</td>
</tr>
<tr>
<td>CS 240, Introduction to Computers</td>
<td>CS 200, Introduction to Programming</td>
</tr>
<tr>
<td>Hist. 131 or 132, History of U. S.</td>
<td>CS 205, COBOL Programming</td>
</tr>
<tr>
<td>Pol. Sci. 121, American Politics</td>
<td>Collog. 205, COBOL Programming</td>
</tr>
<tr>
<td>Elementary foreign language (112)</td>
<td>Foreign language elective</td>
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</table>

#### SOPHOMORE

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<tr>
<td><strong>Course</strong></td>
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<tr>
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<td>Math. 331, Discrete Mathematics</td>
</tr>
<tr>
<td>112, Basic Interpersonal Communication</td>
<td>CS 200, Introduction to Programming</td>
</tr>
<tr>
<td></td>
<td>CS 205, COBOL Programming</td>
</tr>
<tr>
<td>Math. 211, Elementary Linear Algebra</td>
<td>Social and behavioral science elective</td>
</tr>
<tr>
<td>CS 212, PASCAL Programming</td>
<td>Foreign language elective</td>
</tr>
<tr>
<td>CS 305, File Processing Techniques</td>
<td>Humanities and fine arts elective</td>
</tr>
<tr>
<td>Foreign language elective</td>
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<td></td>
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</tbody>
</table>

#### JUNIOR

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td><strong>Course</strong></td>
</tr>
<tr>
<td>CS 340, Computer Organization and Programming</td>
<td>CS 485, Debugging Techniques</td>
</tr>
<tr>
<td>Natural science elective</td>
<td>Sequence elective</td>
</tr>
<tr>
<td>Sequence elective</td>
<td>Social and behavioral science elective</td>
</tr>
<tr>
<td>Social and behavioral science elective</td>
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</tr>
<tr>
<td>Humanities and fine arts elective</td>
<td></td>
</tr>
</tbody>
</table>

*Fairmount College/Computer Science 333*
## SENIOR

### First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 510, Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>CS 540, Operating Systems and Architecture I</td>
<td>3</td>
</tr>
<tr>
<td>Sequence elective</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

\[ 15 \]

### Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 420, Concepts of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>Sequence electives</td>
<td></td>
</tr>
<tr>
<td>Natural science elective</td>
<td>3-5</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

\[ 15-17 \]

**NOTE:** Electives must be carefully chosen so that all department, college, and University graduation requirements are satisfied.

### Lower Division Courses

#### 103G. Computers: Their Uses and Abuses. (3)

This course provides a broad introduction to modern computers and their use. Topics covered include: historical development, basic concepts of computer systems, principles of computer problem solving, influence on individuals and society (both positive and negative), security and privacy issues, and the outlook for our future with computers. Computer applications in various areas will be surveyed, including business, government, education, engineering, health professions, the humanities, law enforcement and the sciences. This course is not a computer skills course. Its purpose is to facilitate an understanding of computers, their capabilities, limitations, and impact on the lives of individuals. A 34 103G 0 0701

#### 200. Introduction to Programming. (2)

An introduction to the process of analyzing problems and describing their solutions in procedure-oriented languages. Topics include concepts and uses of computers, functions, algorithms, program documentation, and a survey of computer programming languages. No computer program implementation will be required in this course. Students wishing to apply the course material must enroll in one or more of the programming laboratories, CS 201 through 216. Concurrent enrollment is encouraged. A 34 200 0 0704

#### 201. FORTRAN Language. (2). 1R; 2L

Fundamentals of computer programming in FORTRAN and its application to problems. Prerequisite: Math. 111 or 112 or departmental consent. Prerequisite or corequisite: CS 200. A 34 201 1 0704

#### 202. PL/I Language. (2). 1R; 2L

Fundamentals of computer programming in PL/I and its application to problems. Prerequisite: Math. 111 or 112 or departmental consent. Prerequisite or corequisite: CS 200 or EE 199. A 34 202 1 0704

#### 203. APL Language. (2). 1R; 2L

Fundamentals of computer programming in APL and its application to problems. Prerequisite or corequisite: CS 201, 202, 206 or 212. A 34 203 1 0704

#### 204. SNOBOL Language. (2). 1R; 2L

Fundamentals of computer programming in SNOBOL and its application to problems. Prerequisite: CS 202 or 212. A 34 204 1 0704

#### 205. COBOL Language. (2). 1R; 2L

Fundamentals of computer programming in COBOL and its application to problems. Prerequisite or corequisite: CS 200 or EE 199. A 34 205 1 0704

#### 206. BASIC Language Programming. (2). 1R; 2L

Fundamentals of computer programming in BASIC and its application to problems. Prerequisites: \( 1\frac{1}{2} \) units of high school algebra or Math. 011. Prerequisite or corequisite: CS 200. A 34 206 1 0704

#### 212. PASCAL Programming. (2). 1R; 2L

Fundamentals of computer programming in PASCAL and its application to problems. Prerequisites: \( 1\frac{1}{2} \) units of high school algebra or Math. 011. Prerequisite or corequisite: CS 200. A 34 212 1 0704

#### 213. RPG Programming. (2). 1R; 2L

Fundamentals of computer programming in RPG and its application to problems. Prerequisite or corequisite: CS 200. A 34 213 1 0704

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The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R; 2L means 2 hours of lecture and 2 hours of lab.
214. LISP Programming. (2). 1R; 2L. Fundamentals of computer programming in LISP and its application to problems. Prerequisites: 11/2 units of high school algebra or Math. 011 and CS 201, 202 or 212.

216. Assembly Language Programming. (2). 1R; 2L. Fundamentals of computer programming in 370 BAL and its application to problems. Prerequisite or corequisite: CS 200 and 240.

240. Introduction to Computers. (2). 1R; 3L. An introduction to digital computing equipment, its organization and management. Topics include computer systems hardware, logic design, concepts of software and firmware, data representation and coding, management of computer installations and programming support. The laboratory will be used for a variety of experiences to expose the student to current technology and practice.

Upper Division Courses

300. Fundamental Algorithms. (3). 2R; 2L. A second course in programming designed to continue building the student's knowledge of algorithm development. Topics include internal sorting and searching, stacks, queues, linked lists, string processing, recursion and matrix operations. Projects involving one or more large programs will allow the student to apply the material. Prerequisites: Math. 211 and one of the following programming language courses: CS 201, 202, 205, 212 or 216. CS 202 or 212 is recommended. Math. 211 may be taken concurrently. All prerequisites are waived for students who have completed EE 199.

305. File Processing Techniques. (3). 2R; 2L. A second course in programming designed to extend the student's knowledge of I/O processing. Topics include file blocking, compaction, sequential access and update, external sort/merge, random access, data base, indexes, list file structure and trees. Prerequisites: CS 202 or 205.

340. Computer Organization and Programming. (3). 2R; 2L. A study of basic computer architecture and programming technique required to control it. Topics include number representation, arithmetic, communication between major computer components, instruction processing cycle, addressing techniques and the concepts of microprograms.

420. Concepts of Computer Science. (3). Relations and mappings. Also included are algebraic structures, including semigroups, and theory of graphs as well as the applications of these concepts to problems in computer science. Prerequisites: CS 300, 240 and Math. 331.

485. Debugging Techniques. (2). 1R; 3L. A study of the methods of locating errors in computer programs. Topics include code verification, test data selection, compiler options and debugging software. The student will apply the material by assisting other students in programming laboratory. Prerequisites: CS 300, 305, 340 and three courses numbered CS 201 through 216.

498. Individual Projects. (2-3). Repeatable for a total of 6 hours of credit. Prerequisite: departmental consent.

499. Special Topics. (1-3). Special topics of current interest in computer science. Prerequisite: departmental consent.

Courses for Graduate/Undergraduate Credit

501. Numerical Programming Techniques. (3). 2R; 2L. A study of the programming techniques used to solve non-linear equations, interpolate, integrate and solve systems of linear equations. The implications of finite precision floating point arithmetic are discussed. Techniques for initial and boundary value problems in ordinary differential equations are also covered. Selected algorithms are implemented on the computer. Prerequisites: Math. 243 and CS 360.

510. Programming Languages. (3). Formal definition of programming languages, including syntax and semantics. Also examined are underlying properties of algorithmic languages, including scope of declarations, storage allocation, grouping of statements, binding time of constituents, subroutines and tasks. Prerequisites: CS 202, 340, 300 and 305. CS 212 may be substituted for 202 as a prerequisite.

512. Systems Programming. (3). 2R; 2L. Introduction to advanced concepts of assembly language programming and their application in systems programming.
Topics covered include input/output programs, macros, dynamic resource allocation and task management. The course requires one or more programming projects involving representative systems programs. Prerequisites: CS 300, 305 and 340. A 34 512 1 0704

540-541. Operating Systems and Architecture I and II. (3-3). Design of computer systems emphasizing software and computer architecture. Batch processing systems and their operating characteristics are reviewed, including addressing techniques, memory management, file design and systems accounting. Concurrent processes are discussed for both hardware and software, including topics such as I/O devices, controllers, interrupts, queuing, resource allocation, asynchronous processes, paging, protection and synchronization in multiprocess and multiprogramming systems. Advanced architectures and operating system implementations are considered. Prerequisites: CS 300, 305 and 340. A 34 540 0 0702; A 34 541 0 0702

560. Data Structures. (3). The formal specification of data structures. Linear lists and arrays, orthogonal lists and multilinked structures are studied, and representation via trees and graphs and searching and sorting techniques are included. Prerequisites: CS 300 and 305. A 34 560 0 0702

565. Data Base Design. (3). Principles of data base design and management for computer information systems. Several logical organization and file design techniques are examined. Problems of security and integrity of data are also discussed. Prerequisite: CS 305. A 34 565 0 0702

580. Introduction to Software Engineering. (3). An introduction to the body of knowledge, presently available tools, and current theories and conjectures regarding the process of program development. These topics are studied from several different viewpoints, ranging from the individual program statement to a large programming project. Prerequisites: CS 420 and 485. The prerequisites are waived for students with graduate standing. A 34 580 0 0704

605. Compiler/Interpreter Techniques. (3). Review of programming language structures, translation and implementation. Compilations of simple expressions and statements. Overall design and organization of compilers and interpreters, including lexical and syntactic scan, construction of symbol tables, object code generation, diagnostic error messages and optimization techniques. Prerequisite: CS 510. A 34 605 1 0704

644. On-Line Computer Systems. (3). Characteristics of dedicated, business-oriented computer systems, as contrasted with general purpose, time-sharing systems. Study focuses on hardware requirements, design methodologies for application programs and data bases, and characteristics of typical operating systems. Prerequisites: CS 305 and 340. A 34 644 0 0702

671. Artificial Intelligence. (3). Heuristic versus algorithmic methods, principles of heuristic approach and cognitive processes. Also covered are objectives and methods of artificial intelligence research and simulation of cognitive behavior. A survey of appropriate examples from various areas of artificial intelligence research is included. Prerequisite: CS 560. A 34 671 0 0704

675. Numerical Methods. (3). A continuation of CS 501 emphasizing the theoretical aspects of the algorithms treated. The course includes the solution of the eigenvalue problem, approximation and numerical solution of partial differential equations. Prerequisites: CS 501 and Math. 511. A 34 675 0 0704

699. Selected Topics. (1-3). Selected topics of current interest. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 34 699 0 0701

720. Theoretical Foundations of Computer and Information Sciences. (3). This course provides an advanced level introduction to the theoretical bases of computer science and related concepts in information science. Computer science theory includes the various models of finite state machines, both deterministic and nondeterministic, plus the concepts of decidability, computability and formal language theory. Topics in information science will include basic coding theory, cybernetics, models of the human brain and their relevance to machine intelligence. Prerequisite, CS 420 or graduate standing. A 34 720 0 0701

721. Analysis of Algorithms. (3). Introduction to the techniques used to analyze both specific algorithms and classes of algorithms. Popular models including Knuth's Mix and random access machine will be covered. Specific techniques, such as divide-and-conquer, recurrence equations, and dynamic programming, will be
studied. Applications to set operations, hashing, graph searching, transitive closure and partitioning will be analyzed. Prerequisites: CS 560 and either 420 or graduate standing. A 34 721 0 0702

741. Small Systems Architecture. (3). A course on minicomputers, and microcomputers, and on how small computers are used to construct larger ones. Includes general concepts of computer architecture, particularly the differences between large computers and small computers and the special features of small computers, such as horizontal and vertical microprogramming; use of display terminals, cassettes, tapes and discs; networks of small computers; and trends in small computer use and design. Prerequisite: CS 540 or EE 594. A 34 741 0 0702

798. Individual Projects. (1-3). Allows beginning graduate students and mature undergraduate students to pursue individual projects of current interest in computer science. A 34 798 3 0701

Courses for Graduate Students Only

811. Programming Language Translator Design. (3). This is an advanced course designed to expose the student to many of the current issues in programming language design, particularly structured programming and modulating abstraction (operation and data), process synchronization, reliability, interrupt and exception handling, data structuring, extensible languages, and nonprocedural languages. Traditional languages including FORTRAN, COBOL, PL/I and ALGOL, and the more recent ones such as PASCAL, CPASCAL, CSP/R and others will be evaluated on each of the aspects of programming language design. Prerequisites: CS 560 and 510. A 34 811 0 0704

841. Advanced Computer Architecture. (3). A study of advanced topics in computer architecture like parallel processing, stack architectures, computer performance evaluation and reliability of computing systems. Architectures of typical systems belonging to the IBM, CDC and Burroughs families of computers will be studied. Prerequisite: CS 540 or EE 694. A 34 841 0 0702

842. Operating Systems Concepts. (3). A comprehensive treatment of the design of executive software for systems ranging from simple multiprogramming to multiprocessor and network environments. Concepts of concurrent and parallel processes, related problems of intra- and intersystem communication, synchronization and integrity will be addressed. General principles of resource management as related single-processor and multiprocessor environments will be presented. Prerequisite: CS 540 or EE 694. A 34 842 0 0702

843. Distributed Computing Systems. (3). A study of hardware and software features of on-line multiple computer systems with an emphasis on network design and telecommunications. Topics include distributed data bases, interprocessor communication and centralization versus distribution. Study of the use of microcomputers in representative configurations is also included. Prerequisite: CS 540 or 741 or EE 694. A 34 843 0 0702

862. Principles of Data Base Design. (3). An advanced treatment of the principles of data base design. The following issues will be addressed: logical design, including relational model; physical design, including new technological advances in implementing very large data bases; security and integrity of data; and distributed data base networks. Prerequisite: CS 560. A 34 862 0 0702

882. Software Testing and Reliability. (3). A study of the ingredients of software quality assurance and their interactions, characteristics of software quality and methods of measurement, software reliability models and program testing, and tools for software development and testing. Methods for proving program correctness and comparison. Prerequisite: CS 580. A 34 882 0 0705

891. Practicum. (3). An intensive applied learning experience, involving the analysis and solution of a significant practical problem, and appropriate documentation of the work done. Students are required to participate in a departmental seminar where their practicum experiences will be shared with other students and faculty. Prerequisite: departmental consent. A 34 891 2 0701

893. Individual Reading. (1-5). Prerequisite: departmental consent. A 34 893 3 0701

Fairmount College/Computer Science 337
Economics

Major. The economics major in Fairmount College of Liberal Arts and Sciences consists of a minimum of 31 hours and a maximum of 41 hours. Econ. 201, 202, 231, 301, 302 and 340 are required along with Math. 111 and 340. Math. 112 may be accepted in lieu of Math. 111.

Minor. A minor in economics in Fairmount College of Liberal Arts and Sciences consists of 15 hours exclusive of Econ. 100 and 102. Econ. 201 and 202 must be included.

Courses. Economics courses are listed in the College of Business Administration section of the Catalog.

English Language and Literature

ENGLISH LANGUAGE AND LITERATURE

Major. A major consists of 30 hours, 3 of which may, with departmental consent, be taken in a cognate subject (such as foreign literature, theater, etc.) offered in a course by another department. The course work must be distributed as follows:

I. Basic Requirements (6 hours)
   1. Eng. 270—must be taken during first 9 hours of work in major
   2. Eng. 272 or 274

II. Area Requirements (15 hours)
   One course each from five of the following areas:
   1. Medieval literature—Eng. 350 or 521
   2. Renaissance literature—Eng. 352 or 522
   3. Restoration and 18th century literature—Eng. 354 or 524
   4. 19th century literature—Eng. 356, 526 or 527
   5. 19th century American literature—Eng. 362, 501* or 502*

III. Electives (9 hours)
    Eng. 101 and 102 are not counted toward an English major.
    Only 6 hours from the following will be credited toward the major—Eng. 285, 301, 303, 401, 403, 517, 518, 585, 586—except as noted below for the creative writing major.

* The acceptability of Eng. 501 and 502 depends on the content of the particular courses taken.

Minor. A minor consists of 15 hours and requires two courses from among Eng. 350, 352, 354, 356, 358, 362 or 364 and at least 6 hours of upper division work. Eng. 101 and 102 are not counted toward a minor.

CREATIVE WRITING

A student planning to major in creative writing must complete Eng. 101 and 102, and thereafter complete a total of 30 hours of course work in English, including the following courses.
I. Required Courses (6 hours)
   Eng. 270 and 285 (to be completed with a grade of B or better, or receive special departmental consent)

II. Skill Courses (at least 12 hours)
   From Eng. 301, 303, 401, 403, 517, 518, 585, 586 or University Honors English courses (1-3)

III. Critical and Interpretive (at least 3 hours)
   Selected from Eng. 274, 315, 335, 470, 512, 513, 514, 665, 672

IV. Modern and Contemporary (at least 3 hours)
   Selected from Eng. 324, 333, 337, 358, 364, 365, 501, 502, 530, 531, 536

V. Historical Development (at least 3 hours)
   Selected from Eng. 272, 322, 331, 332, 362, 550

VI. Historical Era (at least 3 hours)

Minor. A minor with a creative writing sequence is available and consists of 15 hours of course work in creative writing (Eng. 285 plus 12 hours of skill courses just listed).

TEACHING

Students must file a declaration of English teaching major or minor with an assigned English-education adviser at the time they apply to the teacher education program. A 2.50 grade point average in English is required of all majors and minors 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 of Liberal Arts and Sciences or the College of Education is 51 hours, distributed as follows.

   I. Language
       Eng. 315 or 667
   II. Composition
       Eng. 680
   III. Literature
       1. Foundations—Eng. 270, 272 and 274
       2. British and American literature—Eng. 340 and 362; 356 or 358; and 252 or 364
       3. Cross-cultural literature or language—Eng. 365, 540, 550 or 672
   IV. Speech Arts
       Speech 674 and one of these—Speech 143G or Speech 221
   V. Instructional Services
       IS 616 and one foundations course or practicum in reading
   VI. Electives
       9 hours in English, or in certifiable minor or in approved area of competency to be selected in consultation with an English-education adviser.

Minor for Students Planning to Teach English as a Second Subject in Secondary Schools. The teaching minor requirement is 24 hours in
English, including the following: Eng. 270, 340, 362 and 680; 356 or 358; 252 or 364; 274 or 315; and 272, 365, 540, 550 or 672. Twelve additional hours in English or related fields are required for certification.

**COMPOSITION**

**Noncredit Course**

011. Spelling, Punctuation, Syntax. (2). Designed primarily for those enrolled in special sections of Eng. 101, but available to all students and teachers who wish to know "the basics" of English spelling, punctuation and syntax. Not applicable to a degree. A 14 011 0 1501

**Lower Division Courses**

101-102. College English I and II. (3-3). Communication skills (reading, listening, library skills and, especially, writing). Eng. 101 is prerequisite for Eng. 102. Eng. 101 and 102 are sequential and should be taken during the freshman year. A 14 101 0 1501; A 14 102 0 1501

150. Workshop. (2-4). Repeatable for credit. Material varies according to the needs of students. A 14 150 2 1502

210. Composition: Business, Professional and Technical Writing. (3). Prerequisites: Eng. 101 and 102, or instructor's consent. A 14 210 0 0601

**Courses for Graduate/Undergraduate Credit**

680. Theory and Practice in Composition. (3). Introduction to theories of rhetoric, research in composition and writing programs and practices in schools and colleges. Students investigate the process of writing, analyze varieties and samples of school writing, and develop their own writing skills by writing, revising and evaluating their own and others' work. The course is designed especially for prospective and practicing teachers and may not be taken for credit by students with credit in Eng. 780. A 14 680 0 1501

685. Advanced Composition. (3). Designed for upper division and graduate students in all disciplines. This course in expository writing improves students' academic and professional writing skills through review of basics, intensive practice, study of standard formats for publication and presentation of research, and the study of research resources and techniques. A 14 685 0 1501

780. Advanced Theory and Practice in Composition. (3). 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. A 14 780 0 1501

**CREATIVE WRITING**

**Lower Division Course**

285. Introduction to Creative Writing. (3). An introductory course for students interested in the techniques and practice of imaginative writing in its varied forms. Prerequisites: Eng. 101 and 102. A 14 285 0 1507

**Upper Division Courses**

301. Creative Writing: Prose Fiction. (3). May be repeated for up to 6 hours of credit. Prerequisite: Eng. 285. A 14 301 0 1507

303. Creative Writing: Poetry. (3). May be repeated for up to 6 hours of credit. Prerequisite: Eng. 285. A 14 303 0 1507

401. Advanced Creative Writing: Prose Fiction. (3). An advanced course for students developing the skilled practice of writing, rewriting, revising and polishing prose fiction. Prerequisites: Eng. 285 and at least 3 hours of Eng. 301. A 14 401 0 1507

403. Advanced Creative Writing: Poetry. (3). An advanced course for students developing the skilled practice of writing, rewriting and polishing poetry. Prerequisites: Eng. 285 and at least 3 hours of Eng. 303. A 14 403 0 1507
Courses for Graduate/Undergraduate Credit

517 & 518. Playwriting I and II. (3 & 3). Cross-listed as Speech 516 and 517. Not repeatable for credit. A 14 517 0 1507 & A 14 518 0 1507

555. Writers Tutorial: Prose Fiction. (3). Tutorial work in creative writing in prose fiction with visiting writer. Repeatable for credit. Prerequisite: consent of creative writing coordinator. A 14 555 0 1507

586. Writers Tutorial: Poetry. (3). Tutorial work in creative writing in poetry with visiting writer. Repeatable for credit. Prerequisite: consent of creative writing coordinator. A 14 586 0 1507

Courses for Graduate Students Only

801 & 802. Creative Writing: Fiction. (3 & 3). Advanced work in creative writing. Students who plan to offer creative writing in prose fiction as a thesis are required to complete two semesters. With departmental consent, these courses may be repeated for credit. Prerequisite: consent of creative writing coordinator. A 14 801 9 1507 & A 14 802 9 1507

805 & 806. Creative Writing: Poetry. (3 & 3). Advanced work in the writing of poetry. Students who plan to offer creative writing in poetry as a thesis are required to complete two semesters. With departmental consent, these courses are repeatable for credit. Prerequisite: consent of creative writing coordinator. A 14 805 9 1507 & A 14 806 9 1507

875. Master of Fine Arts Essay. (2-6). A 14 875 4 1507


LINGUISTICS

Upper Division Course

315. Introduction to English Linguistics. (3). Cross-listed as Ling. 315. Introduction to linguistic principles, including phonological and grammatical concepts. A 14 315 0 1505

Courses for Graduate/Undergraduate Credit

665. History of the English Language. (3). Cross-listed as Ling. 665. Linguistic and cultural investigation of the development of English. Prerequisite: Eng. 315 or Ling. 577 or departmental consent. A 14 665 0 1505

667. Aspects of Linguistic Theory. (3). Cross-listed as Ling. 667 and Anthro. 667. Examination of aspects of the structure of English and their relation to linguistic theory. Prerequisite: Eng. 315 or Ling. 577 or departmental consent. A 14 667 0 1505

672. Studies in Language Variety. (3). Cross-listed as Ling. 672. An introduction to the study of language variety, with special attention to regional and social dialect in America and methods of studying it. May be repeated for credit when content varies. Prerequisite: Eng. 315 or Ling. 577 or departmental consent. A 14 672 0 1505

740. Graduate Studies in Linguistics. (3). Selected topics in theories of language and methods of linguistic study. With departmental consent, the course is repeatable for credit. A 14 740 0 1505

LITERATURE

Lower Division Courses

220G. The Literary Heritage: English Masterpieces. (3). This course is intended to introduce to the lower division general student selections from the English masterpieces that constitute the literary heritage. A 14 220G 0 1502

223. Books and Ideas. (3). Reading, discussing and some writing about literature from all periods and cultures (fiction, poetry, drama and essays). Designed especially for non-English majors; not credited toward an English major or minor. A 14 223 0 1502

224. 20th Century British and American Literature. (3). Designed especially for non-English majors; not credited toward an English major or minor. A 14 224 0 1502

230G. Exploring Literature. (3). Perceptive reading of literature in its major traditional periods and in its various genres (especially fiction, drama and poetry). The object is to deepen the appreciation and understanding of literature; what it is, what it does and how it does it. Readings are selected with careful attention to the
needs and interests of non-English majors,
and a cultural rather than a technical ap­
proach is employed. A 14 230G 0 1502
231G. Exploring Literature in Media. (1).
An appreciation section, meeting once a
week for two hours, to expand the scope
and range of Eng. 230G through multime­
dia presentations, closely correlated with
the reading in Eng. 230G. Films, panel
discussions, poetry readings, recordings,
small-group discussions and presenta­
tions, etc. A 14 231G 0 1502
252. Modern American Writers. (3). A 14
252 0 1502
270. Introduction to Literature. (3). Intro­
duction to major literary forms; instruc­
tion in critical reading and writing
through study of representative works in
drama, fiction and poetry. Required of all
English majors and must be taken during
the student’s first 9 hours as a declared
major. Prerequisites: Eng. 101 and 102.
A 14 270 0 1502
272. Origins of the Western Literary Tra­
dition. (3). A study of the literary forms
that first appear in classical and Biblical
literature and reappear in the English lit­
erary tradition. Readings from mythology,
the classics and selected books of the
Bible. A 14 272 0 1502
274. The Language of Literature. (3). An
examination of the principles and prob­
lems of literary interpretation that are
especially related to language structure.
A 14 274 0 1502
280. Literary Studies. (3). Course content
varies from one semester to another. Re­
peatable for credit. A 14 280 0 1502

Upper Division Courses

307. Narrative in Literature and Film. (3).
2R; 2L. A comparative aesthetic analysis
of the art of narration in literature and
especially in film. A 14 307 0 1501
322. The Drama: Origins and Develop­
ment. (3). A survey of the drama from its
beginnings in ancient Greece through the
mid-19th century. A 14 322 0 1502
324. Modern Drama. (3). Continental,
English, Irish and American plays of the
late 19th and early 20th century. A 14 324
0 1502

331 & 332. The Novel in England I and
II. (3 & 3). The rise and development of
the novel— I: Defoe through Austen; II:
Scott through Hardy. A 14 331 0 1502 & A
14 332 0 1502
333. Contemporary Fiction. (3). Conti­
ental, English, Irish and American fic­
tion of the 20th century. A 14 333 0 1503
335. Types and Techniques of Poetry. (3).
A study of the standard forms of prosody
and the stylistic devices of poetry. A 14
335 0 1502
337. Contemporary Poetry. (3). A study of
poetry since 1945, primarily American and
British. A 14 337 0 1502
340. Major Plays of Shakespeare. (3). De­
signed for students who wish to study the
best work of Shakespeare’s career in one
semester. Students who take this course
may take Eng. 515 once for credit. A 14
340 0 1502
350. Chaucer and the Middle Ages. (3).
Middle English poetry, prose and drama
from the 12th to 15th century. A 14 350 0
1502
352. Literature of the English Renais­
sance. (3). A survey of English literature
from 1485 to 1660. A 14 352 0 1502
354. Restoration and 18th Century Liter­
ature. (3). A survey of English literature
from 1660 to 1798. A 14 354 0 1502
356. Romantic and Victorian Literature.
(3). A survey of poetry and prose from
1758 to 1900. A 14 356 0 1502
358. Modern British Literature. (3). En­
glish and Irish literature of the 20th cen­
tury. A 14 358 0 1502
362. American Writers of the 19th Cen­
tury. (3). From Poe to James. A 14 362 0
1502
364. Modern American Literature. (3).
Major trends and representative works in
American literature from 1900 to the pre­
sent, with emphasis on the first 50 years of
the 20th century. A 14 364 0 1502
365. Afro-American Literature. (3). A sur­
vey course designed to acquaint the stu­
dent with the most significant Afro-Amer­
ican writers from the 1700s to the pre­
sent. Lectures cover early slave narratives and

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For
example, 2R; 2L means 2 hours of lecture and 2 hours of lab.
early slave poetry to the Harlem Renais­sance; student reading, discussion and writing begin with the Harlem Renais­sance and end with the 1970s. Prerequisites: Eng. 101 and 102. A 14 365 0 1502

390. The Bible as Literature. (3). A 14 390 0 1501

400C. The Literary Imagination: Epic, Romance, Tragedy, Comedy. (3). A course designed to acquaint the general student with the major modes that have shaped the Western literary tradition. It focuses on the tendency of the imagination to con­struct different kinds of fictions that satisfy the human demand for various forms of literary pleasure—the pleasure that derives from the experience of love and war on a heroic scale (epic and romance), of pain and suffering (tragedy), and of human folly (comedy and satire). The course also acquaints students with the nature of literary inquiry by approaching works from a variety of critical perspectives. A 14 400G 0 1502

450. Independent Reading. (2-3). Designed for majors and nonmajors who wish to pursue special reading or research projects in areas not normally covered in course work. Repeatable for credit. Prerequisite: departmental consent. A 14 450 3 1502

470. Topics in Literary Criticism. (3). Exploration of various historical and modern approaches to literary criticism and study of issues in literary criticism. Prerequisite: Eng. 270 or departmental consent. A 14 470 0 1502

Courses for Graduate/Undergraduate Credit

501. American Authors. (3). Subjects to be announced each semester. Repeatable for credit. A 14 501 0 1502

502. Types of American Literature. (3). Drama, fiction, poetry. Subjects to be announced each semester. Repeatable for credit. A 14 502 0 1502

512. Studies in Fiction. (3). Subjects to be announced each semester. Repeatable for credit. A 14 512 0 1502

513. Studies in Poetry. (3). Subjects to be announced each semester. Repeatable for credit. A 14 513 0 1502

514. Studies in Drama. (3). Subjects to be announced each semester. Repeatable for credit. A 14 514 0 1502

515. Studies in Shakespeare. (3). Subjects to be announced each semester. Repeatable for credit, except by students who take Eng. 340. A 14 515 0 1502

521. Studies in Medieval Literature. (3). Study in authors, genres, motifs and in literature from the 12th to 15th century, with particular topics selected and announced by instructor. Repeatable with change of content. Prerequisite: none, but Eng. 350 or some familiarity with medieval literature is recommended. A 14 521 0 1502

522. Studies in Renaissance Literature. (3). Subjects to be announced each semester. Repeatable for credit. A 14 522 0 1502

524. Studies in Restoration and 18th Century Literature. (3). Subjects to be announced each semester. Repeatable for credit. A 14 524 0 1502

526. Studies in Romantic Literature. (3). Subjects to be announced each semester. Repeatable for credit. A 14 526 0 1502

527. Studies in Victorian Literature. (3). Subjects to be announced each semester. Repeatable for credit. A 14 527 0 1502

530. Studies in Modern Literature I. (3). British and/or American literature, 1900-1945. Subjects to be announced each semester. A 14 530 0 1502

531. Studies in Modern Literature II. (3). British and/or American literature, 1945 to present. Subjects to be announced each semester. A 14 531 0 1502

535. Images of Women in Literature. (3). Cross-listed as WS 535. Women characters as stereotypes, archetypes and fully developed human beings in the works of various authors. A 14 535 0 1502

536. Writing by Women. (3). Cross-listed as WS 536. The work of major women writers, both British and American, in poetry and prose. A 14 536 0 1502

540. Folklore. (3). A 14 540 0 1502

545. Comparative Literature: Ancient and Pre-Renaissance. (3). A study of contrastive structures, themes and literary conventions as found in representative works of the ancient Near East and the Western tradition. Readings may vary: epics, romances and drama, with emphasis on appreciation and on the affinity and the uniqueness of the works compared. A 14 545 0 1503

546. Comparative Literature: Renaissance and Modern Europe. (3). A study of
some controlling themes and moods in Renaissance and modern European literature. Readings may vary: fiction, drama and poetry, with emphasis on appreciation, critical awareness and the real similarities and differences between works. A 14 546 0 1503

550. Comparative Literature: Myths, Ancient and Modern. (3). A study of representative man-centered myths from various traditions: classical, pre-Renaissance and contemporary, with emphasis on significant relations between individual works or contrasted traditions. A 14 550 0 1503

550. Special Studies. (2-3). Topic selected and announced by the individual instructor. Repeatable for credit. Prerequisite: departmental consent. A 14 550 3 1502

610. Old English. (3). Cross-listed as Ling. 610. A 14 610 0 1502


Courses for Graduate Students Only

800. Introduction to Graduate Study in English. (3). Especially designed to prepare students to perform effectively in graduate classes in English. The course is concerned with: (1) basic bibliographical tools; (2) terminology, both technical and historical; (3) various approaches to the study of literature, such as intrinsic analysis of a literary work, the relationships of biography to literary study and the relevance of other disciplines, such as psychology, to literature; (4) the writing of interpretative and research essays. Throughout the semester a balance between criticism and research is maintained. A 14 800 0 1502

811. Graduate Readings in Pre-Renaissance Literature. (3). Early and middle English poetry, prose and drama to the 16th century. A 14 811 9 1502

812. Graduate Readings in 16th Century Literature. (3). Wyatt, Surrey, Sidney, Spenser and their contemporaries. A 14 812 9 1502


814. Graduate Readings in 18th Century Literature. (3). Dryden, Pope, Swift, Fielding, Sterne, Johnson, Boswell, Burns and their contemporaries. A 14 814 9 1502

815. Graduate Readings in Romantic Literature. (3). Wordsworth, Coleridge, Byron, Shelley, Keats, Scott and their contemporaries. A 14 815 9 1502

816. Graduate 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. A 14 816 9 1502

817. Graduate Readings in 20th Century British Literature. (3). Yeats, Joyce, Lawrence, Auden, Spender and their contemporaries. A 14 817 9 1502

821. Graduate Readings in American Literature I. (3). From the beginnings to 1870, with emphasis on Emerson, Thoreau, Hawthorne, Melville, Whitman and Dickinson. A 14 821 9 1502

822. Graduate Readings in American Literature II. (3). From 1870 to 1920, with emphasis on James, Twain, Crane, Dreiser, Robinson and Frost. A 14 822 9 1502

823. Graduate Readings in American Literature III. (3). From 1920 to 1970, including Eliot, Stevens, Hemingway, Faulkner and their contemporaries. A 14 823 9 1502

830. Graduate Studies in Drama. (3). Selected topics in the history and nature of dramatic literature. A 14 830 9 1502

832. Graduate Studies in Fiction. (3). Selected topics in the development of the form and content of prose fiction. A 14 832 9 1502

834. Graduate Studies in Poetry. (3). Selected topics in forms, techniques and history of poetry. A 14 834 9 1502

840. Graduate Studies in Criticism. (3). Selected topics in the theory and practice for literary criticism. A 14 840 9 1502

845. Graduate Studies in a Major Author. (3). Careful study of the works of a major author, with readings in secondary sources, reports, discussions and papers. Repeatable for credit with change of content. A 14 845 9 1502

855. Directed Reading. (2-3). Designed for graduate students who want to pursue special research in areas not normally covered in course work. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 14 855 3 1502
860. Graduate Seminar in Special Topics. (3). Intensive study of selected texts, writers or literary problems. Seminar discussions, reports and research projects. Repeatable for credit with departmental consent. A 14 860 9 1502

870. Master’s Essay. (2-3). A 14 870 4 1502

French (See Romance Languages)

Geology and Geography

The Bachelor of Science (BS) program in geology provides in-depth training for professional work in industry or government as well as for graduate study. The Bachelor of Arts (BA) program in geology provides training for graduate study or teacher preparation background.

The geology program emphasizes field and laboratory skills in sedimentary geology and related fields. Particular attention is directed to solving problems of mineral fuel and mineral resources depletion and of environmental improvement.

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.

No major is offered in geography.

Geology Major. A major with the BA requires a minimum of 33 hours in geology, including the following:

1. Geol. 111 or 212, General Geology
2. Geol. 312, Historical Geology; 320, Mineralogy; and 324, Petrology
3. Geol. 540, Field Mapping; 552, Physical Stratigraphy; 544, Structural Geology; and 570, Biogeology
4. Nine additional hours of upper division geology electives or other sciences with previous written approval of the department.

Required supporting sciences for the BA are:

1. Any course in biology
2. One of the following groups
   a. Chem. 111 or 123 and Phys. 213 and 214 or 311 and 312
   b. Chem. 111 and 112 or 123 and 124 and Phys. 213 or 311
3. Math. 242 and 243

A major with the BS requires a minimum of 42 hours in geology, including the following:

1. Geol. 111 or 212, General Geology
2. Geol. 312, Historical Geology; 320, Mineralogy; and 324, Petrology
3. Geol. 540, Field Mapping; 552, Physical Stratigraphy; 544, Structural Geology; and 570, Biogeology
4. Geol. 640, Field Geology
5. An additional four courses, or 12 hours from the following two groups with a minimum of one course from each group, or other sciences with prior written approval of the department:
   a. Geol. 520, Optical Mineralogy; 524, Petrography; 526, Sedimentary Geology; 560, Geomorphology; and 564, Map and Air Photo Interpretation
   b. Geol. 650, Geohydrology; 660 Geophysics; 680, Economic Geology; 682, Petroleum Geology; and 684, Subsurface Geology.

Required supporting sciences for the BS are:
1. All those courses listed for the BA degree
2. Chem. 112 or 124 or Phys. 214 or 312, to complete a one-year sequence each in chemistry and physics

A sequence in statistics or computer science courses can, with prior departmental approval, be substituted for the mathematics requirements in either bachelor program. Upon consultation with the department and with prior approval of all departments concerned, field majors in geology can be defined in the areas of geobiology, geochemistry, geomathematics, geophysics, engineering geology, environment and earth science teaching.

BA candidates must meet the language requirements of Fairmount College of Liberal Arts and Sciences. BS candidates must elect one of the following options: (1) 10 hours of modern language, (2) 9 hours of computer science or (3) 9 hours of statistics. Students electing options 2 or 3 must get prior written approval for an approved program of courses. Election of one of the latter two options for language requirements will not alter existing departmental mathematics requirements.

Geology Minor. A minor in geology consists of at least 15 hours, including Geol. 111, or its equivalent, and 12 hours of upper division courses.

Geography Minor. A minor in geography consists of at least 15 hours, including Geog. 201, or its equivalent.

It is suggested that students minoring in geology or geography consult with the department in selecting courses most appropriate to their major field of study.

Nonmajor and Nonminor Students. A nonmajor or nonminor student who wishes to achieve the broadest terminal background knowledge of geology is advised to take Geol. 111, General Geology, and 312, Historical Geology. Similar advice is offered to the potential major whose decision to elect geology is still pending.
GEOLOGY

Lower Division Courses

101. Science and Environment. (4). 3R; 1D. The study of the physical environment. Basic concepts in the physical sciences and current problems with which physical scientists are concerned. A 16 101 0 1910

111. General Geology. (5). 3R; 1D; 2L. An overview of the earth; the concepts of its origin, composition, materials, structure, landforms and history; and natural processes operating to create man's physical environment. Field trips into the earth laboratory are required. A 16 111 1 1914

150. Workshop. (1-4). Short-term courses with special focus on geological problems. Prerequisite: instructor's consent. A 16 150 2 1914

212. General Geology. (3). 2R; 3L. The materials and structure of the earth, the physical and chemical processes at work upon and within it and its evolutionary history. Designed for geology and other science majors and minors. Field trips are required. Not open to students with credit in Geol. 111. A 16 212 1 1914

Upper Division Courses

300G. Energy, Resources and Environment. (3). An examination of man's effects on his environment and man's dependence on earth resources in meeting his needs. The significance of availability and location of energy and mineral resources will be examined relative to the protection and improvement of man's environment and man's desires for a high standard of living. Some emphasis on urban geology. A 16 300G 0 1914

302. Earth and Space Science. (4). 3R; 2L. A general survey of man's physical environment, including elements of geology, geography, meteorology, climatology, oceanography and astronomy. Field trips are required. Not open to students who have taken Geol. 111 or 212 or Geog. 201. A 16 302 1 1917

310. Oceanography. (3). Origin and extent of the oceans; nature of the ocean floor; cause and effect of currents, tides and waves; and man's relationship to the oceans. A 16 310 0 1914

312. Historical Geology. (3). 2R; 3L. A systematic review of earth history and its preservation in the rock record using field evidence for sequences of biological and tectonic events in selected areas. Also included is the origin and evolution of life. Field trips are required. Prerequisite: Geol. 111 or 212 or 302 or equivalent. A 16 312 1 1914

320. Mineralogy. (3). 1R; 6L. Elementary crystallography. A study of the origin, composition and structure of the common rock-forming minerals with laboratory emphasis on recognition of their typical forms, occurrences, associations and identification. Field trips are required. Prerequisite: Geol. 111 or 212. A 16 320 1 1914

324. Petrology. (3). 1R; 6L. The origin, distribution, occurrence, description and classifications of the common igneous, metamorphic and sedimentary rocks with laboratory emphasis on the identification of common rocks. Field trips are required. Prerequisite: Geol. 320. A 16 324 1 1914

330. Astrogeology. (3). Flow of energy in the cosmos; evolution of stellar and galactic systems as they relate to the origin and cosmic abundance of the elements; origin and history of solar-planetary systems, including satellites, meteorites and comets; and elements of lunar and Martian geology. A 16 330 0 1911

430. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area of geologic significance. The course is given upon demand and may be repeated for credit when course locality and content differ. Where appropriate, travel, lodging and board costs will be charged. A 16 430 2 1914

The following abbreviations are used in the course descriptions: R stands for lecture, D for demonstration and L for laboratory. For example, 3R; 1D; 3L means 3 hours of lecture, 1 hour of demonstration and 2 hours of laboratory.
Courses for Graduate/Undergraduate Credit

501. Raw Materials of Antiquity. (3). 2R; 2L. Nature of common rocks, minerals and metallic ores used in prehistory and ancient times. Also included are weathering, sedimentation and soil forming processes; elements of stratigraphy; geologic history of the Pleistocene and recent epochs; relative and absolute age dating; mineralogy of clays and ceramics; and mining and metallurgical processes of antiquity. Prerequisite: Anthro. 501 or equivalent or instructor's consent. A 16 501 0 1914

520. Optical Mineralogy. (3). 1R; 6L. Optical properties of amorphous and crystalline materials in polarized light. Use of the petrographic microscope in the quantitative determination of common rock-forming minerals and mineraloids in thin section is used, and immersion oil methods are introduced. Prerequisite: Ceol. 320. A 16 520 1 1914

523. Igneous and Metamorphic Geology. (3). 2R; 3L. The evolutions of igneous and metamorphic rocks, their structures and the physiochemical processes controlling their origin. Petrochemical calculations, systematic petrographic examination and classification of igneous and metamorphic minerals and rock suites. Field trips are required. Prerequisite: Geol. 520. A 16 523 1 1914

524. Petrography. (3). 1R; 6L. Description, classification and analysis of plutonic and volcanic igneous rocks, granulose and foliated metamorphic rocks, fossiliferous, clastic and chemical sedimentary rocks, and well cuttings with the petrographic microscope. Prerequisite: Geol. 520. A 16 524 1 1914

526. Sedimentary Geology. (3). 2R; 3L. Origin, classification, primary structures and physiochemical processes controlling deposition of clastic and nonclastic sedimentary rocks, especially carbonates. An analysis of modern and ancient depositional environments is included, as is a systematic petrographic study of sedimentary rocks in thin section, insoluble residues and heavy mineral analysis. Field trips are required. Prerequisite: Geol. 524. A 16 526 1 1914

531. Planetary Geoscience. (3). 2R; 3L. Planetary astrogeology, nature and origin of the solar and planetary system, imagery mapping of lunar and planetary surfaces, geochemistry and geophysics of planets and meteorites, lunar geology and petrology. Prerequisite: Geol. 111 or 212, or 302 or 330. A 16 531 0 1914

540. Field Mapping Methods. (3). 9L. Cross-listed as Geog. 540. Field mapping methods, with special reference to use of level, compass, barometer, alidade and air photos. Field trips are required. Prerequisite: Geog. 201 or Geol. 111 or 212. A 16 540 1 1914

544. Structural Geology. (3). 2R; 3L. Stress-strain theory and mechanics of rock deformation, description and genesis of secondary structural features in crustal rocks resulting from diastrophism, elements of global tectonics, and laboratory solution of geologic problems in three dimensions and time. Field trips and field problems are required. Prerequisite: Geol. 552. A 16 544 1 1914

552. Physical Stratigraphy. (3). 2R; 3L. Description, classification, correlation and relative ages of stratigraphic rock units, and the origin of primary structures of clastic sedimentary rocks. Laboratory emphasis is on binocular microscopic examination and physical properties of unconsolidated sediments and clastic sedimentary rocks. Field instruction in stratigraphic mapping methods is required. Prerequisites: Geol. 320 and 540 or equivalent. A 16 552 1 1914

560. Geomorphology. (3). 2R; 3L. Cross-listed as Geog. 560. Identification and interpretation of the genesis of landforms and a critical examination of processes producing the landforms, including elements of quantitative geomorphology. Field trips are required at the option of the instructor. Prerequisite: Geol. 111 or 212. A 16 560 1 1914

562. 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. Prerequisite: Geol. 560 or instructor's consent. A 16 562 0 1914

564. Map and Air Photo Interpretation. (3). 2R; 3L. Cross-listed as Geog. 564. Elements of map and aerial photograph composition; interpretation and application of maps and photos in geology, geography, urban planning, land-use inventory and engineering works. Remote sensing methods are introduced. Field trips are required at the option of the instructor. Prerequisite: Geol. 111. Geog. 201 or equivalent. A 16 564 1 1914

570. Biogeology. (3). 2R; 3L. Systematic survey of major fossil biogeological mate-
ricals, analysis of the origin and evolution of life and paleoecological interpretation of ancient environments and climates. Hand lens and binocular microscopic examination is made of major fossil biogeochemical materials. Application of analyzed fossil data to the solution of problems in biogeochemistry, paleoecology, paleoclimatology and paleogeography is included. Examples are cited from fields of invertebrate, vertebrate and microfauna, and paleontology, and paleoecology. Preparation of geologic columns, sections, maps and an accompanying professionally written report are due on campus during the sixth week. Prerequisite: 12 credits of advanced geology, preferably including a field methods mapping course, or instructor's consent. Offered jointly with Kansas State University and Fort Hays State University. A 16 640 1 1914

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. A 16 650 1 1914


680. Economic Geology. (3). 2R; 3L. Occurrence of metallic and nonmetallic economic mineral deposits and the physiochemical principles governing their origin. Included also are a laboratory examination of common ores and industrial minerals and elements of mineral beneficiation. Field trips are required. Prerequisites: Geol. 523 and 526. A 16 680 1 1914

682. Petroleum Geology. (3). 2R; 3L. The origin, migration and accumulation of oil and gas in the earth's crust, as well as the distribution and significant features of modern fields, and energy alternatives and impacts. Field trips are required. Prerequisite: Geol. 544. A 16 682 1 1914

684. Subsurface Geology. (3). 2R; 3L. All subsurface methods, including laboratory, logging, testing and treatment, valuation and mapping methods. Field trips are required at the option of the instructor. Prerequisites: Geol. 682 and Phys. 214 or equivalent. A 16 684 1 1914

690. Special Studies in Geology. (2-3). Systematic study in selected areas of geology. Course content varies and is repeatable for credit. Laboratory work or field trips might be required at the option of instructor. Offered on demand. Prerequisite: instructor's consent. A 16 690 2 1914

698. Independent Study in Geology. (2-3). Independent study on special problems in the field of geology: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geology, (g) sedimentation, (h) petroleum, (i) stratigraphy and (j) geophysics. Independent study in selected areas of geology with a written final report required. Prerequisite: consent of sponsoring faculty. A 16 698 3 1914
701. Seminar. (1). Current topics in geology. Reports on current student and faculty research. Required of all new degree-seeking graduate students. A 16 701 9 1914

750. Workshop in Geology. (1-4). Short-term courses with special focus on geological problems. Prerequisites: graduate standing and/or instructor’s consent. A 16 750 2 1914

Courses for Graduate Students Only

800. Research in Geology. (3). 9L. Research in special areas of geology: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geology, (g) sedimentation, (h) petroleum, (i) stratigraphy and (j) geophysics. A written final report is required. Prerequisite: consent of sponsoring faculty. A 16 800 4 1914

810. Advanced Graduate Studies in Geology. (3-6). Systematic study in a selected topic of professional or applied geology. The course is given upon demand and may be repeated for credit when course content differs. Field trips may be required. Prerequisites: graduate standing, consent of instructor and two years of professional postgraduate practice in geology. A 16 810 9 1914

820. Geochronology. (3). 3L. Theory of age-taking techniques for geological and archeological materials. Stratigraphic chronology; radiometric, geologic, chemical, and biological-role processes; evolutionary processes; and phenomenological dating techniques. Prerequisite: graduate standing in geology or anthropology (archaeology). A 16 820 0 1914

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. Field trips are required. Prerequisite: Geol. 523. A 16 823 1 1914

826. Sedimentary Petrology. (3). 2R; 3L. Detailed study of sedimentary rocks and their origins. Determinations of mineral compositions, textures, structures, fabrics and petrogenetic relationships are facilitated by the use of thin sections, peels and geochemical analyses. Field trips are required. Prerequisite: Geol. 526. A 16 826 1 1914

830. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area or region of geologic significance. The course is given upon demand and may be repeated for credit when course locality and content differ. Where appropriate, travel, lodging and board costs will be charged. Prerequisites: summer field geology (or equivalent) and instructor’s consent. A 16 830 2 1914

840. Geotectonics. (3). 3L. Physical and geological principles of crustal deformation and tectonic interpretation. The relationship of interior earth processes to crustal deformation is studied, with special reference to global tectonics. Field trips are required. Prerequisite: instructor’s consent. A 16 840 0 1914

850. Stratigraphy. (3). 2R; 3L. Advanced concepts and principles of stratigraphic analysis and interpretation, with emphasis on original sources and current research investigations. Field problem and field trips are required. Prerequisite: Geol. 544 or instructor’s consent. A 16 850 1 1914

870. Biogeology. (3). 2R; 3L.Paleoecological reconstruction of ancient plant/animal communities and environments, with emphasis on community structure, biostratigraphy, synthesis of total raw data and problem solving. Field trips are required. Prerequisite: a course in biogeology or equivalent. A 16 870 1 1918

880. Mineral Deposits. (3). 2R; 3L. An advanced treatment of the occurrence, classification and origin of metalliferous ore deposits; applied petrography of selected ore and host rock suites; mineralogy of opaque ore minerals and their textures. Field trips are required. Prerequisite: Geol. 680. A 16 880 1 1914

890. Thesis. (3). Prerequisite: departmental consent. A 16 890 4 1914

GEOGRAPHY

Only courses 201, 235 and those cross-listed with geology are intended as physical science courses. All other geography courses are intended as social science offerings.

Lower Division Courses

125. Principles of Geography. (3). An introductory course emphasizing the relationship between human activities and natural environment. A 16 125 0 2206
150. Workshop in Geography. (1-4). Short-term courses with special focus on geographical problems. Prerequisite: instructor’s consent. A 16 150 2 2206

201. Physical Geography. (3). 2R; 3L. Emphasis upon 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. A 16 201 1 1917

210. World Geography. (3). A general survey of world geography, including an analysis of the physical, political, economic, historical and human geography of the major world regions. A 16 210 0 2206

235. Meteorology. (3). 2R; 2L. An introductory study of the atmosphere and its properties and the various phenomena of weather. A brief survey of important principles of physical, dynamic, synoptic and applied meteorology is included. This course does not apply toward a major or minor in geology. Field trips are required at the option of the instructor. Prerequisite: instructor’s consent. A 16 235 1 1913

262. 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. A 16 262 0 2206

Upper Division Courses

320. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs will be charged. A 16 320 2 2206

362. Maps and Man. (3). An examination of cartography in relation to culture and civilization. Not a course in how-to-do cartography, but a study of how maps reflect man’s cultural activity and the history of civilization. Maps are studied as a select group of communications media. A 16 362 0 2206

Courses for Graduate/Undergraduate Credit

520. Geography of the United States and Canada. (3). Physical, political, economic, historical and human geography of the United States and Canada. A 16 520 0 2206

530. Geography of Latin America. (3). Physical, political, economic, historical and human geography of Latin America. A 16 530 0 2206

540. Field Mapping Methods. (3). 9L. Cross-listed as Geol. 540. A 16 540 1 2206

542. Geography of Europe. (3). Physical, political, economic, historical and human geography of Europe. A 16 542 0 2206

550. Geography of Africa. (3). Physical, political, economic, historical and human geography of Africa. A 16 550 0 2206

560. Geomorphology. (3). 2R; 3L. Cross-listed as Geol. 560. A 16 560 1 2206

564. Map and Air Photo Interpretation. (3). 2R; 3L. Cross-listed as Geol. 564. A 16 564 1 2206

572. Geography of Asia. (3). Physical, political, economic, historical and human geography of Asia. A 16 572 0 2206

580. Economic Geography. (3). A geographical analysis of the distribution and utilization of basic world resources. A 16 580 0 2206

585. Mineral Resources. (3). Economic geography of the earth’s resources and distribution and utilization of metals, industrial and chemical minerals, fertilizers, building materials, fossil fuels and water. A 16 585 0 2206

620. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs will be charged. A 16 620 2 2206

630. Geography of Mexico. (3). Physical, human and cultural geography of Mexico, including important archaeological and historical settings. Relations of sources to arts, crafts, industry and architecture. A 16 630 0 2206

670. Urban Geography. (3). 2R; 3L. Geography of cities; the origin, growth, functions, characteristics and environmental problems of urban areas; structure and dynamic elements of intraurban space; land-use analysis and approaches to urban planning; and problems of urban ecology. A 16 670 0 2214

681. Mineral Crises of Antiquity. (3). An earth-resource viewpoint of the keystone events of civilization from prehistory through the 19th century. The role of
mineral wealth in the affairs of man from prehistorical Grand Presigny, through the Copper, Bronze and Iron ages; the Greek, Roman and Danubian empires and related mineral resources of Europe and Africa; the gold-silver wealth of early Latin America; the mineral resources of revolutionary America; to the development of the American west for copper, silver and gold. Prerequisite: upper division or graduate standing. A 16 681 0 2206

695. Special Studies in Geography. (3). 3R or 2R; 3L. (Lab is included when appropriate.) Systematic study in a selected area of topical interest in geography. The course is given on demand and is repeatable for credit when course content differs. Field trips might be required. Prerequisite: junior standing. A 16 695 3 2206

698. Independent Study in Geography. (2-3). Independent study or special problems in the field of geography and environmental studies. A written final report is required. Prerequisite: consent of sponsoring faculty. A 16 698 2 2214

750. Workshop in Geography. (1-4). Short-term courses with special focus on geographical problems. Prerequisite: instructor's consent. A 16 750 2 2206

Course for Graduate Students Only

820. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs will be charged. Prerequisite: instructor's consent. A 16 820 2 2206

German

Major A. A major in German consists of a minimum of 24 hours beyond the level of Ger. 112. Students may select an emphasis in literature or in language as described below.

The literature emphasis is recommended for students whose concerns are primarily in the humanities or who anticipate graduate study in literature. Students must take Ger. 324, 341 or 441, 524, 577 and at least 6 hours in Ger. 650.

The language emphasis is suggested for students whose objectives are in teaching (see Major B), linguistics or in the application of language skills in support of other professional pursuits. Students must take Ger. 301, 324, 341 or 441, 524, and 577 or 579.

Native speakers of German are not normally permitted to enroll in 100- and 200-level German courses or to receive credit in such courses by advanced standing examination. A minimum of 18 hours in upper division courses, including Ger. 524 and 577 or 579, is normally required for a native speaker to earn a German major. Native speakers of German should consult with the department before enrolling in German courses.

Major B. The teaching major in German in either Fairmount College of Liberal Arts and Sciences or in the College of Education consists of
at least 50 semester hours chosen from the three options below. For all categories students must have at least 24 hours in the language beyond the 112 level, as discussed earlier under Major A. Students must also include one of the three options:

1. Complete at least 21 hours in a second language
2. Complete at least 15 hours from one or more of the following related fields: English, history, linguistics, philosophy or political science (courses must be chosen in consultation with the teacher education adviser)
3. Obtain a totally separate second major as prescribed in the Catalog.

Students who wish to enter the student teaching program should consult with the department’s professor in charge of teacher education early in their college careers. Requirements for entering the student teaching semester include:

1. Grade point average in German of 2.75 or above
2. Special departmental approval based on demonstrated competencies in the use of both oral and written German (not based on course grades)

Minor. A minor in German consists of 11 hours beyond the 112 level. Students are permitted to count no more than one of the following for minor credit: Ger. 341, 441, 577 or 641.

GERMAN

Noncredit Course

010. German for Graduate Reading Examination. (3). A reading course designed to prepare students to fulfill departmental requirements of a reading knowledge of German for the Master of Arts or Master of Science. No previous knowledge of German is required. This course will not count toward a degree. A 17 010 0 1103

Lower Division Courses

111. Elementary German I. (5). A 17 111 0 1103

112. Elementary German II. (5). Prerequisite: Ger. 111 or equivalent. A 17 112 0 1103

220. Continuing German. (5). Grammar review and cultural readings designed primarily for students meeting the foreign language graduation requirement of Fairmount College of Liberal Arts and Sciences. Students who qualify on the basis of a diagnostic test administered during the first week of class may transfer to Ger. 223 or to Ger. 223 and 225. Required of all students with high school German and of transfer students with the college German equivalent to 112. A 17 220 0 1103

223. Intermediate German I. (3). Intensive reading and discussion of short works. Prerequisite: Ger. 112 with grade of C or better, or departmental recommenda
tion to transfer from Ger. 220. A 17 223 0 1103

225. German Conversation. (2). The development of oral fluency. Prerequisite: Ger. 220 or 223. May be taken concurrently with Ger. 223. A 17 225 0 1103

244. Intermediate German II. (3). Readings in German civilization accompanied by extensive studies of selected literary works. Prerequisite: Ger. 223 or equivalent. A 17 244 0 1103

Upper Division Courses

301. German Phonetics and Pronunciation. (1). A practical course to improve
pronunciation of individual speech sounds as well as intonation and rhythm of sentences. Prerequisite: Ger. 112 or instructor’s consent. A 17 301 0 1103

324. Intermediate Conversation and Composition. (2). Development of written skills is emphasized as conversational practice continues. Prerequisite: Ger. 225 or instructor’s consent. A 17 324 0 1103

341. Civilization of the German-Speaking Countries. (3). Selected topics on significant aspects of life and thought in Germany, Austria and Switzerland. The emphasis is on the modern period, with special attention paid to the interrelation of cultural trends. A knowledge of German is not required. A 17 341 0 0312

441. Culture of the Two Germanies. (3). Study of the culture and life in the Federal Republic of Germany and the German Democratic Republic since 1945. Will not count toward fulfillment of language requirements. A 17 441 0 1103

Courses for Graduate/Undergraduate Credit

521. German in Technical Fields. (3). Supervised individual readings in the student’s field of specialization: humanities, social sciences or natural sciences. Does not apply to a German major. Prerequisite: Ger. 223. A 17 521 0 1103

524. Advanced Conversation and Composition. (3). Prerequisite: Ger. 324 or instructor’s consent. A 17 524 0 1103

577. Introduction to Linguistics. (3). Cross-listed as Ling. 577 and Anthro. 577. Principles of descriptive and historical linguistics: phonetics and phonology, morphology and syntax. The phonological and grammatical structures of Modern Standard German and its development from Proto-Germanic. This course is required for a German major. Prerequisite: Ger. 112 or equivalent of any foreign language. A 17 577 0 1505

579. Linguistics in the Teaching of German. (3). Cross-listed as Ling. 579. The principles of linguistics applied to the problems of teaching German, with a contrastive analysis of the phonological and grammatical structures of English and German. Prerequisite: Ger. 577 or instructor’s consent. A 17 579 0 1505

641. German Literature in Translation. (3). Consideration of the works of one major author, or a literary movement or trend or of a specific genre. Repeatable once for credit. Prerequisite: upper division standing. A 17 641 0 0312

650. Directed Study. (3). Enrollment in any of the areas listed takes place only upon consultation with the department and agreement with the instructor concerned: (a) introduction to the study of German literature; (b) survey I: from the medieval period through the Age of Goethe; (c) survey II: 19th century to 1945; (d) contemporary literature: the literature of both Germanies since 1945; (e) special topics in literature, repeatable once for credit; (f) special topics in language, repeatable once for credit. Prerequisite: Ger. 244 or instructor’s consent. A 17 650 0 1103

750. Workshop in German. (2-4). Repeatable once for credit. A 17 750 2 1103

RUSSIAN

There is no major or minor in Russian.

Lower Division Courses

111. Elementary Russian. (5). A presentation of the sounds and structure of Russian, with the purpose of developing the four basic skills of understanding, speaking, reading and writing. A 17 111 0 1106

112. Elementary Russian. (5). A continuation of Russian 111 in order to complete the presentation of elementary Russian grammar and enhance the four basic skills. Prerequisite: Russian 111 or equivalent. A 17 112 0 1106

210. Intermediate Russian. (5). Cultural readings and grammar review presented audiolingually and designed to enhance the four skills of understanding, speaking, reading and writing. Prerequisite: Russian 112 or equivalent. A 17 210 0 1106

225. Russian Conversation and Composition. (2). Development of oral and written skills. Prerequisite: Russian 112 or instructor’s consent. A 17 225 0 1106
Gerontology

FIELD MAJOR AND MINOR

For the field major, students must take at least 30 hours, including Geron. 100, 303, 365, 501, 513 and 518 and 12 hours of electives approved by the gerontology program adviser from the listed courses.

The minor in gerontology requires at least 15 hours, including Geron. 100; 9 hours from the following: Geron. 303, 365, 513, 518; and 3 hours of electives from the listed courses.

By the use of electives and with the consultation of the faculty, students can concentrate in one of the following areas: social services and aging, administration of programs for the elderly, health care and aging, and general pregraduate training in aging.

ASSOCIATE OF ARTS

The Associate of Arts is awarded to students who complete the 64-hour, two-year program. The requirements for the degree are summarized in the table.

I. General Education Course Requirements (30 hours)
   1. Eng. 101, College English I, 3 hours
   2. Eng. 102, College English II, 3 hours
   3. Speech 111, Basic Public Speaking, or Speech 112, Basic Interpersonal Communication, 3 hours
   4. Humanities, 6-9 hours
   5. Social sciences, 6-9 hours
   6. Science or mathematics (including one laboratory course), 6-9 hours

II. Professional Curriculum (15 hours)
   1. Geron. 100, Introduction to Gerontology, 3 hours
   2. Geron. 212, Introduction to Social Research, 3 hours
   3. Geron. 200, Explorations in Social Welfare, 3 hours
   4. At least 6 additional hours of gerontologically relevant course work approved by an adviser in the gerontology program

III. Elective Hours (19 hours)

Lower Division Courses

100. Introduction to Gerontology. (3). Introduction to the field of gerontology, including basic concepts, issues and approaches. A 10 100 0 2201

150. Workshop in Gerontology. (1-3). A course designed to provide specialized instruction, using a variable format, in a gerontologically relevant subject. Repeatable for credit. A 10 150 2 2201


212. Introduction to Social Research. (3). Cross-listed as Soc. 212. A 25 212 0 2208


Upper Division Courses


360. Concepts of Administration. (3). Cross-listed as Admin. 360. B 12 360 0 0506

Fairmount College/Gerontology 355
365. Psychology of Aging. (3). Cross-listed as Psych. 365. A 23 365 0 2209

430. Concepts of Loss. (3). Cross-listed as Nurs. 430. H 11 430 0 1203

462. Leadership and Motivation. (3). Cross-listed as Admin. 462. B 12 462 0 0506

Courses for Graduate/Undergraduate Credit

501. Internship in Gerontology. (3-6). To provide a specially designed field experience for students who need or desire training that will enhance their professional abilities and skills in gerontology and for whom academic credit is appropriate. As part of the internship, students collectively meet one hour weekly with the field placement supervisor. Repeatable for credit not to exceed a total of 6 hours. Prerequisite: instructor's consent. A 10 501 2 2201


503. Organization and Administration of the Health Care System. (3). See HAE 503. H 15 503 0 1201


513. Sociology of Aging. (3). Cross-listed as Soc. 513. A 23 513 0 2208

514. Anthropological Perspectives in Gerontology. (3). Cross-listed as Anthro. 514. A 28 514 0 2202

518. Biology of Aging. (3). Cross-listed as Biol. 518. A 12 518 0 0410

537. The Social Consequences of Disability. (3). Cross-listed as Soc. 537. A 25 537 0 2208

538. Medical Sociology. (3). Cross-listed as Soc. 538. A 25 538 0 2208

550. Selected Topics in Gerontology. (2-6). Study in a specialized area of gerontology with the focus upon preprofessional programs and current issues in the field of aging. Emphasis is on knowledge and skills in applied areas of gerontology as they relate to an emerging area of research and application. Repeatable up to 6 hours. Prerequisite: instructor's consent. A 10 550 0 2201


590. Legal Aspects of Health Care Administration. (3). Cross-listed as HAE 590. A 21 590 0 1202

598. Internship. (1-6). Cross-listed as Soc. 598. A 25 598 2 2208


661. Developmental Psychology. (3). Cross-listed as Psych. 661. A 23 661 0 2209

663. Economic Insecurity. (3). Cross-listed as Econ. 663. B 13 663 0 2204

698. Independent Readings in Gerontology. (2-3). Directed study in a specialized topic in gerontology. Repeatable up to 6 hours. Prerequisite: 12 hours of gerontology credit or advisor's consent. A 10 698 3 2201

731. Growth and Development IV: Adults and Aging. (3). Cross-listed as IS 731. D 17 731 0 0822

750. Workshop in Gerontology. (1-3). A course designed to provide specialized instruction, using a variable format, in a gerontologically relevant subject. Repeatable for credit. A 10 750 2 2201

Courses for Graduate Students Only

800. Seminar in Gerontology I. (3). Advanced study of the process of aging from a multi-disciplinary point of view. Offered only in fall semester. Prerequisite: enrollment in the gerontology program. A 10 800 0 2201

801. Seminar in Gerontology II. (3). Repeatable for credit up to 9 hours. Study of selected problems in gerontology such as current issues in aging research, mental health and aging, physical health and the elderly, and social policy and aging, with intensive library and classroom study of particular bodies of literature. Prerequisite: enrollment in the gerontology program. A 10 801 0 2201
810. Advanced Gerontology Internship. (3-6). The internship is designed to integrate academic gerontology and practical experience with an emphasis upon application of research findings. Students are assigned to an agency or organization engaged in planning, administering, or providing direct services to older people. As part of the internship, the intern is required to submit and be examined upon a comprehensive internship paper. As part of the course students will meet collectively one hour per week with the field placement supervisor. Prerequisite: enrollment in the program and instructor's consent. A 10 810 2 2201

820. Thesis. (1-3). Repeatable, but total credit hours counted toward degree shall not exceed 4 hours. A 10 820 4 2201

History

Major. A major in history requires a minimum of 29 hours. History majors must specialize in one of the following areas:

1. Ancient and medieval history—requires Hist. 101 plus one additional lower division course
2. Modern European history—requires Hist. 102 plus one additional lower division course
3. English history—requires Hist. 113 or 114 plus one additional lower division course
4. U.S. history—requires Hist. 131 or 132 plus one additional lower division course
5. Latin American history—requires Hist. 111 plus one additional lower division course
6. General history—requires 8 lower division hours.

Nine upper division hours are to be selected from courses in each appropriate area and must be chosen in consultation with an adviser. All history majors must take Hist. 300 and 699. In addition, sufficient hours need to be elected to bring the total to 29. At least 6 of these hours must be upper division hours that are not in the area of specialization.

Minor. A minor in history consists of 15 hours, including a maximum of two lower division courses and at least 3 upper division hours.

Core-Satellite Courses. The history department has implemented core-satellite courses, a new concept in the teaching of history. The program utilizes a generalized history course as a unifying element and incorporates expertise from other disciplines in a core-satellite arrangement. The core course is a 2-hour course that provides students with a broad background in a given historical period (Hist. 350, 352, 354, 356, 358 or 360). The satellite courses are small, 1-hour courses
(ideally no more than ten students) that provide a study of one aspect of the human experience in the time-space context of the larger 2-hour course. A member of the history faculty gives the historical context by means of the core course, and the study of a specific element of the art, music, literature, philosophy, sociology or other aspects of the period is furnished by the 1-hour courses, taught in the appropriate departments. There is no theoretical limit to how many satellite courses a student may enroll in, but concurrent enrollment in the core course is a prerequisite for enrollment in the satellites. Each satellite is listed in the Schedule of Courses under the appropriate department, and all are listed in the history department section of the Schedule of Courses as well.

Lower Division Courses

101G & 102G. History of Western Civilization. (4&4). 101: prehistory to 1648; 102: 1648 to the present. A 18 101G 0 2205 & A 18 102G 0 2205

103 & 104. Evolution of the Non-Western World. (4&4). 103: an examination of the political, social and cultural roots of the non-Western peoples, including those in Africa, the Near East, inner Asia, China, Japan, India and southeast Asia. 104: a study of the non-Western world in modern times, including Africa, the Near East, inner Asia, China, Japan, India and southeast Asia. A 18 103 0 2205 & A 18 104 0 2205

105 & 106. The Way It Was: Western Civilization in Film. (4&4). 105: an examination of selected topics in the history of Western civilization from antiquity to the 17th century through the use of commercial motion pictures and lectures and discussions on the topic(s) dealt with in the films. 106: continuation from the 17th century to the present. Not open to history majors or to those with credit in Hist. 101G & 102G. A 18 105 0 2205 & A 18 106 0 2205

108G. A History of Lost Civilizations. (3). A comparative examination of lost civilizations of both the Old World and New World, including the Sumerians, Hittites, Minoans, Mycenaeans, Etruscans, Mo- henjo-Daro, Khymers, Incas, Mayas and Aztecs. A 18 108G 0 2205

111 & 112. History of Latin America. (3&3). 111: a study of Spanish and Portuguese colonization of America. 112: an examination of the national period from the wars of independence to the present. A 18 111 0 2205 & A 18 112 0 2205

113 & 114. English History. (3&3). 113: from the earliest times to the beginning of the Stuart period, emphasizing the origin and development of institutions, customs and nationalism. 114: from the beginning of the Stuart period to the present. A 18 113 0 2205 & A 18 114 0 2205

125G. The City of Man. (4). Through the use of historical simulations the student is allowed to project himself into seven historical situations along the course of man's urban experience. The methodology used will prove helpful in a variety of academic disciplines. Among the topics to be included are Athens in the Age of Pericles, the American Revolutionary city, Black migration to the city and the psychological aspects of warfare on the city. A 18 125G 0 2205

131 & 132. History of the United States. (4&4). 131: survey from the colonial period through the Civil War. 132: survey from Reconstruction to the present. A 18 131 0 2205 & A 18 132 0 2205

150. Workshop in History. (1-3). A 18 150 2 2205

Upper Division Courses

300. Introduction to Historical Research and Writing. (3). Basic instruction in research methodology, composition and criticism. This course is required of history majors. A 18 300 0 2205

310. Special Topics in History. (3 in an area). Repeatable for credit to a maximum of 6 hours. Prerequisite: departmental consent. A 18 310 3 2205

312. History of Engineering and Technology. (3). An examination of the growth and development of the practice of engineering from the 4th millennium B.C. to the 20th century A.D. The contribution of en-
356. The World of Enlightenment. (2). History of the 18th century conflict between royal absolutism, enlightenment, ideology and economic change and the revolutionary changes engendered. A variety of 1-hour satellite courses in specialized topics in The World of Enlightenment, differing each time the course is taught, will be offered by the history department and by other departments. (See current Schedule of Courses for departments and titles.) Concurrent enrollment in Hist. 356 and at least one of the satellite courses is required. Students may enroll in more than one satellite course. A 18 356 0 2205

358. The Age of European Primacy. (2). History of Europe in the 19th century, with emphasis on the development of Europe's political, economic, industrial and military dominance and the sources of 20th century loss of primacy. A variety of 1-hour satellite courses in specialized topics in The Age of European Primacy, differing each time the course is taught, will be offered by the history department and by other departments. (See current Schedule of Courses for departments and titles.) Concurrent enrollment in Hist. 358 and at least one of the satellite courses is required. Students may enroll in more than one satellite course. A 18 358 0 2205

360. The 20th Century, Europe and the World. (2). History of the contemporary world and Europe's changing role in its diplomacy, economy and ideology. A variety of 1-hour satellite courses in specialized topics in The 20th Century, Europe and the World, differing each time the course is taught, will be offered by the history department and by other departments. (See current Schedule of Courses for departments and titles.) Concurrent enrollment in Hist. 360 and at least one of the satellite courses is required. Students may enroll in more than one satellite course. A 18 360 0 2205

361. History Satellite Courses. (1). Concurrent enrollment in one of the core courses is required. See current Schedule of Courses for title. A 18 361 0 2205

Courses for Graduate/Undergraduate Credit

501. The American Colonies. (3). Colonization of the New World, with emphasis on the British peoples and their development. A 18 501 0 2205
502. The American Revolution and the Early Republic. (3). Examination of selected phases of the revolutionary, confederate and federal periods. A 18 502 0 2205

503. The Age of Jefferson and Jackson. (3). Political, economic and cultural development of the United States from the election of Thomas Jefferson to the end of the Mexican War with emphasis on the growth of American nationalism. A 18 503 0 2205

504. Civil War and Reconstruction. (3). A 18 504 0 2205

505. America's Gilded Age, 1877 to 1900. (3). Emphasis on roots of urban problems, foundations of dissent, policy toward minority groups and evaluation of imperial expansion. A 18 505 0 2205

506. The United States: the 20th Century, 1900-1929. (3). The Progressive Era, World War I, the postwar period and the twenties. A 18 506 0 2205

507. The United States: the 20th Century, 1929-1945. (3). The Great Depression, the New Deal and World War II. A 18 507 0 2205

508. The United States: the 20th Century, Since 1945. (3). The history of the United States from the Truman through the Nixon administrations. A 18 508 0 2205

513. American Popular Culture. (3). Cross-listed as Amer. Stud. 513. An examination of popular culture from colonial times to the present, with special emphasis on the media explosion since the Civil War. This course looks at the American past through the eyes of 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 sideshows to the more serious business of politics and finance. A 18 513 0 2205

515. Economic History of the United States. (3). Cross-listed as Econ. 627. A 18 515 0 2205

516. Origins of the Industrial State. (3). Cross-listed as Econ. 626. U.S. economic development and policy from the Civil War to the present. Emphasis is on changes in the reputations and influence of businessmen in American society. A 18 516 0 2205

517 & 518. Constitutional History of the United States. (3&3). 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. A 18 517 0 2205 & A 18 518 0 2205

519 & 520. Social and Intellectual History of the United States. (3&3). 519: survey of American thought and society to the end of the Civil War. 520: the significant social and intellectual currents from the middle of the 19th century to the present, with special reference to the interaction between ideas and social structure. A 18 519 0 2205 & A 18 520 0 2205

521 & 522. Diplomatic History of the United States. (3&3). 521: from independence through the Spanish American War. 522: continues to present. A 18 521 0 2205 & A 18 522 0 2205

523. History of Modern China. (3). History of China from the Ch'ing dynasty (Manchu) to present, with emphasis on geography, religion, ethics, politics, international relations and the impact of foreign ideologies on Chinese society. A 18 523 0 2205

524. History of Modern Japan. (3). The history of modern Japan from the establishment of the Tokugawa Shogunate in 1601 to the modern postwar period. A 18 524 0 2205

530. The American Woman in History. (3). Cross-listed as WS 530. Examination of the history, status and changing role of women in American society. A 18 530 0 2205

531. Afro-American History. (3). Afro-American life, culture and history from the 17th century to the present. A 18 531 0 2205

532. The Indian in American History. (3). Indian life, culture and history from the early 16th century to the present, with emphasis on the impact of federal Indian policy since 1800. A 18 532 0 2205

533. The American City: from Village to Metropolis. (3). A study of urbanization and urban life from colonial times to the present — changing life styles and thought patterns, urban architecture, ethnic assimilation, emergence of the suburb, political and ecological adjustments, and the influence of new technology and forms of business organization. A 18 533 0 2205

534. History of the Old South. (3). An examination of Southern civilization prior
535. History of Kansas. (3). History of the Kansas region from Spanish exploration to the present, with principal emphasis on the period after 1854. A 18 535 0 2205

536. The Atlantic and Trans-Appalachian West. (3). Exploration and settlement of the coastal and trans-Appalachian frontiers from colonial times to about 1840. A 18 536 0 2205

537. The Trans-Mississippi West. (3). Spanish, French and Anglo-American penetration and settlement west of the Mississippi River from the 16th century to about 1900. A 18 537 0 2205

538. Recent American Indian History. (3). History of the American Indian since the General Allotment Act. Emphasis is given to detribalization, revival of the 1930s, the politics of reform, the termination controversy. Native American protest and contemporary legal problems. A 18 538 0 2205

545. Neither War Nor Peace: The World Since 1945. (3). A 18 545 0 2205

553. Republic of Mexico. (3). Mexico from the independence movement to the present. A 18 553 0 2205

558. The Ancient Near East. (3). Political and cultural history of ancient Mesopotamia, Iran, Egypt, Palestine, Syria and Asia Minor to the death of Alexander the Great. A 18 558 0 2205

559 & 560. Greek History. (3&3). 559: the Hellenic world from prehistoric times to the end of the Peloponnesian War. 560: the 4th century and the Hellenistic period. A 18 559 0 2205 & A 18 560 0 2205

562 & 563. Roman History. (3&3). 562: the Roman Republic. 563: the Roman Empire. A 18 562 0 2205 & A 18 563 0 2205

565. Byzantine History. (3). Survey of Byzantine history from its origins in the late Roman world to its fall in 1453, with an investigation of its major institutions and foreign relations. A 18 565 0 2205

566 & 567. Medieval History. (3&3). 566: the history of Europe from the fall of the Roman Empire through the Crusades, 500 to 1290. 567: history of Europe, 1290 to 1500. A 18 566 0 2205 & A 18 567 0 2205

568. Medieval Social and Intellectual History. (2). Survey of the social and intellectual history of Europe from the 4th to the 15th century. A 18 568 0 2205

569. Medieval England. (3). An examination of the political, social, economic and intellectual history of the British Isles from the 1st century B.C. to the 15th century A.D. A 18 569 0 2205

575. The Italian Renaissance. (3). Italian history from the 14th through the 16th century, with an emphasis on cultural achievements. A 18 575 0 2205

576. The Reformation. (3). Cross-listed as Rel. 476. The great religious changes in the 16th century in the political, social and intellectual contexts. A 18 576 0 2205

579. Europe Under the Old Regime, 1648-1787. (3). The aristocratic Old Regime, societies in confrontation with modern forces of royal absolutism, Enlightenment, ideology and economic change. A 18 579 0 2205

580. Europe in the Age of Revolution, 1787-1815. (3). Unrest under the Old Regime, processes of revolution and counterrevolution in France, revolutionary and Napoleonic imperialism, and institutional and cultural change. A 18 580 0 2205

581. Europe, 1815-1870. (3). A 18 581 0 2205

582. Europe, 1870-1914. (3). A 18 582 0 2205

583. Europe and the Two World Wars. (3). A 18 583 0 2205

594 & 595. History of Eastern Europe. (3&3). The development of the Bulgarian, Czech, Magyar, Polish, Romanian and Yugoslav peoples. A 18 594 0 2205 & A 18 595 0 2205

596 & 597. History of Russian Thought. (3&3). A 18 596 0 2205 & A 18 597 0 2205

610 & 611. Social and Intellectual History of Europe. (3&3). 610: the social and intellectual history of Europe in the 17th and 18th centuries. 611: the social and intellectual history of Europe in the 19th and 20th centuries. A 18 610 0 2205 & A 18 611 0 2205

612 & 613. European Diplomatic History. (3&3). 612: European international politics and diplomatic practices, with emphasis on the actions of the great powers and their statesmen, and the Concert of Europe to World War I. 613: 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. A 18 612 0 2205 & A 18 613 0 2205
614. Economic History of Europe. (3). Cross-listed as Econ. 625. A 18 614 0 2205

615. Hitler and the Third Reich. (3). The establishment and collapse of the Weimar Republic, the rise and fall of Hitler's Third Reich, the divided Germany of the present and the role of each in world affairs, 1914 to the present. A 18 615 0 2205

616. Germans and Jews. (3). The history of anti-semitism in central Europe, 19th and 20th centuries. A 18 616 0 2205

630. England Under the Tudors. (3). A 18 630 0 2205

632. 18th Century Great Britain. (3). From the accession of William and Mary to the French Revolution. A 18 632 0 2205

634. 19th Century Great Britain. (3). From the French Revolution to the death of Queen Victoria. A 18 634 0 2205

636. Biography and History. (3). An examination of the great biographies of England and America in the 18th through 20th centuries, thus adding a personal dimension to the history of those areas. A 18 636 0 2205


680 & 681. History of Science. (3&3). 680: ancient and medieval science from its beginnings in the Near East to the end of the Middle Ages. 681: rise of modern science from its first formative steps in the medieval world to the 20th century. A 18 680 0 2205 & A 18 681 0 2205

682. Social and Environmental History of Science and Technology. (3). An examination of the social and environmental implications of the development of science and technology from its earliest beginnings to the present day. A 18 682 0 2205

683. Military History. (3). Major military developments and the conduct of war from antiquity to the mid-20th century. A 18 683 0 2205

684. The Impact of Total War, 1939 to 1945. (3). Military developments of the major powers since World War I, emphasizing formulation of doctrine, strategy, technology and tactics. The conduct of World War II is also studied, with conclusions drawn as to the impact of the war. A 18 684 0 2205

699. Historiography. (3). Review of the major schools of historical thought, philosophies of history and eminent historians from the ancient world to the present. This course is required of history majors. A 18 699 0 2205

725. Advanced Historical Method. (3). Review of basic historical research methods, the general character of field bibliographies and recent interpretations and the techniques of professional narrative development. Required of graduate degree students during their first year of enrollment. Prerequisite: departmental consent. A 18 725 0 2205

729. Seminar in American History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 729 0 2205

730. Seminar in American History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 730 0 2205

733. Seminar in Modern European History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 733 0 2205

734. Seminar in Ancient History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 734 0 2205

735. Seminar in Medieval History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 735 0 2205

750. Workshop in History. (1-3). Repeatable for credit but will not satisfy requirements for history majors. A 18 750 0 2205

Courses for Graduate Students Only

801. Thesis Research. (2). A 18 801 0 2205

802. Thesis. (2). A 18 802 0 2205

810. Special Topics in History. (1-3). Open only to graduate students. Repeatable for credit to a maximum of 4 hours. A 18 810 0 2205
Interdisciplinary Liberal Arts and Sciences Program

Upper Division Course

398. Travel Seminar. (1-4). An interdisciplinary travel seminar: a study of culture that includes observations of art and architecture; lectures and discussions of political, social and economic problems; and visits to various historic places of interest. A 10 398 9 4903

Italian (See Romance Languages)

Journalism

Major. The major in journalism consists of 30 hours, including Journ. 200 and a concentration of not fewer than 15 hours in one additional field of study in a college of Wichita State. In addition, one of the following sequences must be completed:

2. Radio-Television—Journ. 322, 522 and 500; Speech 114, 221 or 222, 224 and 606; plus 6 hours in upper division journalism and speech electives
3. Advertising-Public Relations—Journ. 115, 325, 350, 510, 525, 550, 560, 611 and one journalism elective or Speech 637 or 770. Public relations students may substitute Journ. 502 for Journ. 525. The outside concentration for this sequence consists of Psych. 347, Admin. 300, 305, 607 and one other marketing course.

Minor. A minor in journalism requires at least 15 hours, including Journ. 200.

Course Renumbering. A general revision of the journalism curriculum in 1976-77 resulted in numerous changes in course numbers. The course numbers changed include (the old numbers are in parentheses): Journ. 200 (226), 240 (232), 250 (238), 300 (327), 500 (530), 510 (536), 522 (328), 550 (542), 560 (540), 645 (548), 690 (360) and 715 (566).

Lower Division Courses

115. Introduction to Mass Communication. (3). A survey of the media of mass communication and the role each plays in society. Special consideration is given to the freedom and responsibilities of the mass media. A 19 115 0 0601

150. Journalism Workshop. (1-3). A course designed to provide specialized instruction, using a variable format, in a journalistically relevant subject. A 19 150 2 0699
200. Beginning News Writing. (3). IR; 4L. Required for the major in journalism, the course includes evaluation of news, reporting and writing of various types of news stories, with emphasis on achieving accuracy and good writing. Reasonable typing competence is required. Prerequisite: Eng. 102. A 19 200 1 0602

240. Introductory Photojournalism. (3). 2R; 3L. Basic photographic theory and technique, with emphasis on aspects of importance to journalists, writers and editors. Students take, develop and prepare pictures for publication. The journalism department provides a limited number of cameras. Prerequisite: Journ. 200. A 19 240 1 0602

Upper Division Courses

300. Beat Reporting. (3). Reporting and writing about events in the community. Stories assigned and handled under the instructor's direction may be used in various publications. Prerequisite: Journ. 200. A 19 300 5 0602

322. Broadcast News. (3). 3R; 3L. Cross-listed as Speech 322. Theory and techniques of preparing news for the broadcast media. Students prepare newscasts and news reports for public radio station KMUW. Lab periods arranged with instructor. Prerequisites: Journ. 200 and Speech 224. A 19 322 1 0603

325. Introduction to Advertising. (3). Survey of advertising fundamentals and practices, including copywriting, layout, visualization, market research and packaging. Prerequisite: Journ. 200 or departmental consent. A 19 325 0 0604

340. Applied Photojournalism. (3). Covering photographic assignments for the campus newspaper and other publications, under the overall supervision of a journalism instructor. Prerequisite: Journ. 240. A 19 340 1 0602

350. Introductory Public Relations. (3). An introduction to the theory and practice of professional public relations. Topics covered include the role of persuasion and public opinion in public relations, the tools used in planning and evaluating communication, and specialized publics. Prerequisite: Journ. 200. A 19 350 0 0604

380. History of Communication. (3). Research into the development of mass media, with emphasis on the development and presentation of original research papers. Course includes bibliography and criticism in mass communication. Prerequisite: Journ. 200. A 19 380 0 0607

440. Advanced Photojournalism. (3). 3R; 3L. Advanced photographic theory and technique, with emphasis on the feature page photo essay, advertising photography for daily news publications, and the photojournalists' personal viewpoints and philosophies. Using the student's personal camera equipment and the journalism department's laboratory facilities, students shoot, process and print photographs for publications. Prerequisite: Journ. 240. A 19 440 1 0602

Courses for Graduate/Undergraduate Credit

500. Advanced Reporting I. (3). IR; 4L. A course for juniors and seniors on 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, Journ. 200 and either 300 or 322. A 19 500 1 0602

501. Investigative Reporting. (3). 1R; 4L. Study and application of the techniques of reporting and writing complex news stories involving the less obvious aspects of local and state government, education, and various court proceedings. The lab will be by arrangement to permit independent investigation into the news of government or public affairs that is not easily obtainable. Prerequisites: Journ. 500 for majors; departmental consent for graduate students. A 19 501 0 0602

502. Public Information Writing. (3). Basic journalistic skills of clear, precise writing are used to communicate effectively with various audiences. Students write press releases, speeches and popularizations of complex documents. Techniques learned in this course are valuable in writing grant proposals, committee reports, pamphlets and journal articles. Prerequisite: junior standing or departmental consent. A 19 502 0 0602

510. Editing. 1R; 4L. Selection, evaluation and preparation of copy and pictures for publication. Covers copy editing, rewriting, headline and caption writing.
520. Seminar in Journalism. (3). Exploration of problems and controversies involving the press, the nature of news, sources of news and consumers of news. Prerequisite: departmental consent. A 19 520 0 0601

522. Advanced Broadcast News. (3). 3R; 3L. Cross-listed as Speech 522. A course in advanced techniques of preparing news for radio and television presentation, with emphasis on actual work in radio and television newsrooms. Lab periods arranged with instructor. Prerequisite: Journ. 322. A 19 522 0 0603

525. Advertising Copywriting. (3). Detailed practice at writing various kinds of advertising copy, including both print and broadcast forms. Emphasis is on terse, precise writing that evokes response sought by advertiser. Prerequisite: Journ. 325 or departmental consent. A 19 525 0 0604

530. Editorial Writing. (3). A study of editorial judgment, including practice in the writing of editorials and editorial page features, and a study of research materials available to editorial writers. Prerequisites: junior standing and Journ. 200. A 19 530 0 0601

560. Law of the Press. (3). Emphasis on the case method in examining laws and court cases applicable to the mass media. Introduces the 1st Amendment and covers such topics as libel, privacy and copyright. Prerequisites: junior standing and Journ. 200. A 19 560 0 0601

570. Magazine Journalism. (3). A course on magazine production, including the choosing of subjects, approaches and illustrations; the shooting and editing of photographic stories; layout; the handling of production and management concerns. Prerequisite: Journ. 200 or departmental consent. A 19 570 0 0602

571. Magazine Writing. (3). A course on writing for magazines, with emphasis on analyzing the market and patterning articles to fit the needs of specific magazines. Prerequisite: Journ. 200 or departmental consent. A 19 571 0 0602

599. Book Editing and Publishing. (2-3). A course on selecting and editing book manuscripts and the economics and merchandising of books. Offered only in the fall semester. Prerequisite: Journ. 510 or departmental consent. A 19 599 0 0601

611. Media Management. (3). A study of the business and management operations of the mass media designed to give journalism students an understanding of the interrelationships in mass media enterprises. Prerequisite: junior standing or departmental consent. A 19 611 0 0602

645. Special Topics in Journalism. (1-3). Directed individual research in various aspects of journalism and mass communication or related topics: communications theory, news, editorials, advertising and broadcasting. Repeatable for credit when topics differ substantially. Prerequisites: senior standing and departmental consent. A 19 645 3 0601

690. Journalism Internship. (3-6). On-the-job experience and training in news, advertising or public relations, or radio or television news broadcasting. Prerequisite: departmental consent. A 19 690 2 0601

715. World Press. (3). A comparative study of press and broadcast systems around the world, with emphasis on press freedoms and cross-cultural communication. Prerequisite: senior standing. A 19 715 0 0601

720. Dimensions of Mass Communication. (3). A detailed study of the mass media, their role as social institutions, their control, support, content and audience, and their effects. Prerequisite: senior standing. A 19 720 0 0601

750. Journalism Workshop. (1-3). A course designed to provide specialized instruction, using a variable format, in a journalistically relevant subject. A 19 750 2 0699

Latin and Greek (See Romance Languages)

Linguistics

Major. A major in linguistics consists of a minimum of 24 hours from the courses listed below, including at least 9 hours from Group A and
at least one phonetics course—Ling. 223, Fr. 505 or Span. 505. A major must be combined with either a minor in a foreign language or the 111-112 sequence in two different foreign languages and 3 hours beyond 112 in one of them, or the equivalent.

Minor. A minor in linguistics consists of 15 hours from the following courses. At least 6 hours must be taken from Group A.

Note. Courses applied toward another major or minor will not apply toward a major or minor in linguistics.

**Group A—Basic Linguistic Theory**

**Lower Division Courses**

110G. Learning Another Language. (3). An overview of the methods and techniques of language learning. Not counted toward a major. A 10 110G 0 1505

150G. The Nature of Language. (3). An overview of the important facts about what language is and how it works and of the ways in which researchers in linguistics and in other disciplines, such as psychology, philosophy and anthropology, explain and make use of language. A 10 150G 0 1505


223. Linguistics, Phonetics and Phonology. (3). The production and transmission of speech sounds and their role in linguistic structure. Principles of articulatory and acoustic phonetics, with transcription exercises; phonemic and distinctive feature phonologies are also studied. A 10 223 0 1505

**Upper Division Course**

315. Linguistics. Introduction to English Linguistics. (3). Cross-listed as Eng. 315. A 10 315 0 1505

**Courses for Graduate/Undergraduate Credit**


680. Linguistics. Comparative Linguistics. (3). Methods of establishing genetic relationship between languages and reconstructing protolanguages. The course includes a survey of the major language families of the world and typological comparisons of languages and the problem of language universals. Prerequisite: Ling. 315 or 577. A 10 680 0 1505

682. Linguistics. Structure of a Selected Non-Indo-European Language. (3). The language offered depends on student demand and availability of staff. The course may sometimes be conducted as a field methods course and is repeatable for credit when different languages are offered. Prerequisite: Ling. 315 or 577. A 10 682 0 1505

**Group B—Linguistic Study of Specific Languages or Language Groups**

**Courses for Graduate/Undergraduate Credit**


505. French. Advanced Phonetics and...
Diction. (2). Cross-listed as Fr. 505. A 10 505 0 1102
505. Spanish. Spanish Phonetics. (2). Cross-listed as Span. 505. A 10 505 0 1105
635. French and Spanish. Introduction to Romance Linguistics. (3). Cross-listed as Fr. 635 and Span. 635. A 10 635 0 1105
579. German. Linguistics in the Teaching of German. (3). Cross-listed as Ger. 579. A 10 579 0 1505

Group C—Areas of Contact Between Linguistics and Other Disciplines

Lower Division Course
220. Logopedics. Developmental Psycholinguistics. (3). A 10 220 0 0815

Courses for Graduate/Undergraduate Credit
651. Anthropology. Language and Culture. (3). Cross-listed as Anthro. 651. A 10 651 0 2202

Diction. (2). Cross-listed as Fr. 505. A 10 505 0 1102
505. Spanish. Spanish Phonetics. (2). Cross-listed as Span. 505. A 10 505 0 1105
635. French and Spanish. Introduction to Romance Linguistics. (3). Cross-listed as Fr. 635 and Span. 635. A 10 635 0 1105
579. German. Linguistics in the Teaching of German. (3). Cross-listed as Ger. 579. A 10 579 0 1505

Group C—Areas of Contact Between Linguistics and Other Disciplines

Lower Division Course
220. Logopedics. Developmental Psycholinguistics. (3). A 10 220 0 0815

Courses for Graduate/Undergraduate Credit
651. Anthropology. Language and Culture. (3). Cross-listed as Anthro. 651. A 10 651 0 2202


Others
Lower Division Course
292. Linguistics. Special Studies. (2-3). Topic selected and announced by individual instructor. Credit is assigned to Group A, B or C depending on content. Repeatable for credit when content varies. A 10 292 2 1505

Courses for Graduate/Undergraduate Credit
590. Linguistics. Special Studies. (2-3). Topic selected and announced by individual instructor. Credit is assigned to Group A, B or C depending on content. Repeatable for credit when content varies. A 10 590 2 1505
595. Linguistics. Directed Readings. (2-3). Credit assigned to Group A, B or C depending on content. Repeatable for credit. A 10 595 3 1505

Logopedics (See College of Education)

Mathematics

MATHEMATICS

Major. For the Bachelor of Arts (BA) with a major in mathematics, students must complete 21 hours of courses in mathematics or statistics offered by the department numbered 500 or above. CS 201, 202 or 205 is also required.

For the Bachelor of Science (BS) in mathematics, majors must complete Math. 511 and 24 additional hours in mathematics or statistics offered by the department numbered 500 or above. CS 201, 202 or 205 is also required.

For the BS in mathematics with emphasis in statistics the major must complete 27 hours of courses in mathematics or statistics offered by the department numbered 500 or above, including Math. 511; either Math. 545 or 547; and 15 hours of statistics, which must include either Stat. 571-572 or Stat. 771-772. CS 201, 202 or 205 also is required.

For students who are contemplating graduate work it is highly recommended that they include Math. 511, 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 adviser on any of these programs.

**Minor.** For a minor in mathematics, students must take a minimum of 15 semester hours of credit courses in mathematics or statistics, including 3 hours of work in courses numbered 350 or above.

**STATISTICS**

The courses in statistics listed in the back of this section are offered by the mathematics department. No major or minor in statistics is available, but a BS with emphasis in statistics is available as just described. 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.

**MATHEMATICS**

**Noncredit Courses**

007. Arithmetic. (3). A review and study of the basic arithmetic operations for the mature student whose previous training in arithmetic is inadequate for completion of college mathematics courses. A 20 007 0 1701

011. Algebra. (5). The topics from high school algebra essential to the study of university-level mathematics. This course may be used to meet departmental prerequisites in place of 1½ units of high school algebra. Not applicable to degree. A 20 011 0 1701

021. Plane Geometry. (3). For students without high school credit in plane geometry. This course may be used to meet departmental prerequisites in place of 1 unit of high school geometry. Prerequisite: 1 unit of high school algebra, Math. 011, or concurrent enrollment in Math. 011. Not applicable to degree. A 20 021 0 1701

**Lower Division Courses**

100G. The Evolution of Mathematics. (3). A study of mathematics and mathematicians from antiquity to the present. The purpose is to see how mathematics has developed from man's efforts to understand the world and the extent to which mathematics has molded our civilization and culture. Since mathematics is what mathematicians do, the lives of mathematicians from various ages and countries will be studied. This is not a mathematical skills course. A 20 100G 0 1509

101. Mathematics Appreciation. (3). Elementary topics in mathematics of interest to persons in other fields. Designed especially for persons majoring in non-technical fields. No credit toward a major or minor in mathematics. A 20 101 0 1701

109. College Algebra with Review. (5). Topics covered include real numbers, algebraic expressions, exponents and radicals and solutions of equations. These topics are followed by the content of Math. 111. Credit is allowed in only one of the three courses: Math. 109, 111 or 112. (Only 3 hours applies toward a Wichita State University degree.) Prerequisite: 1 unit of high school algebra or Math. 011 and 1 unit of high school geometry or concurrent enrollment in Math. 021. A 20 109 0 1701

110. Technical Algebra and Trigonometry. (5). The standard topics of college algebra and trigonometry oriented toward the needs and interests of technical students. Applications to technical problems are stressed. No credit for students who have previously received credit in Math. 111, 112 or 123. Prerequisites: 1 unit of high school algebra or Math. 011, and 1 unit of high school geometry or Math. 021,
and enrollment in the Engineering Technology Program or consent of department. A 20 110 0 1703

111. College Algebra. (3). A survey of functions, theory of equations and inequalities, complex numbers and exponential and logarithmic functions. Prerequisites: 1½ units of high school algebra, or Math. 011, and 1 unit of high school geometry, or Math. 021. Credit is allowed in only one of the three courses: Math. 109, 111 or 112. A 20 111 0 1701

112. Precalculus Mathematics. (5). Functions, theory of equations and inequalities, complex numbers, the trigonometric functions, exponential and logarithmic functions and other standard topics prerequisite to a beginning study of calculus. Prerequisites: 1½ units of high school algebra, or Math. 011, and 1 unit of high school geometry, or Math. 021. Credit is allowed in both Math. 123 and 112 is not allowed. A 20 123 0 1701

123. College Trigonometry. (3). A study of the trigonometric functions with applications. Prerequisite: Math. 111 or 109, or equivalent high school preparation. Credit in both Math. 123 and 112 is not allowed. A 20 123 0 1701

144. Business Calculus. (3). A brief, but careful, introduction to calculus for students of business and economics. Credit in both Math. 144 and 242 is not allowed. Prerequisite: Math. 109 or 111 or 112, or equivalent high school preparation. A 20 144 0 1701

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 6 hours credit with departmental consent. Prerequisite: departmental consent. A 20 150 2 1701

211. Elementary Linear Algebra. (3). Linear algebra and related topics. Prerequisite: 1 unit of high school algebra or Math. 011. A 20 211 0 1701

242. Calculus I. (5). Analytic geometry and the calculus in an interrelated form. Credit in both Math 242 and 144 is not allowed. Prerequisites: Math. 112 with a C or better, or 2 units of high school algebra, and 1 unit of high school geometry and ½ unit of high school trigonometry, or Math. 123 and either Math 109 or 111 with a C or better in each. A 20 242 0 1701

243. Calculus II. (5). A continuation of Math. 242. A study of integration and applications and an introduction to infinite series are included. Prerequisite: Math. 242 with a C or better. A 20 243 0 1701

321-322. Technical Calculus I and II. (3-3). Standard topics of calculus, including differentiation and integration, with applications to engineering technology. Not open to students with credit in Math. 242 or 144. Prerequisites: Math. 110 or equivalent, and enrollment in the Engineering Technology Program. A 20 251 0 1703; A 20 252 0 1703

Upper Division Courses

331. Discrete Mathematics I. (3). A study of set theory, probability and the elements of statistics. Prerequisite: 1 unit of high school algebra. A 20 331 0 1701

344. Calculus III. (3). A continuation of Math. 243. The course includes a study of multiple integration and partial derivatives. Prerequisite: Math. 243 with a C or better. A 20 344 0 1701

380. Seminar in Mathematics. (1). Topics of special interest to particular students. May be repeated for a total of 4 credit hours with departmental consent. Prerequisite: departmental consent. A 20 380 0 1701

480. Individual Projects. (1-5). Repeatable up to 10 hours. Prerequisite: departmental consent. A 20 480 3 1701

Courses for Graduate/Undergraduate Credit

Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

501. Elementary Mathematics. (5). A study of topics necessary to an understanding of the elementary school curriculum, such as number theory, real numbers and geometry. Not for major or minor credit. Prerequisite: elementary education major and a passing score on a qualifying examination. A 20 501 0 1701

503-504. Topics in Modern Mathematics I and II. (3-3). An investigation of the newer topics in the secondary school curriculum. Repeatable for credit. Prerequisite: departmental consent. A 20 503 0 1701; A 20 504 0 1701

511. Linear Algebra. (3). An elementary study of linear algebra, including an examination of linear transformations and matrices over finite dimensional spaces.
Prerequisite or corequisite: Math. 344. A 20 511 0 1701

513. Fundamental Concepts of Algebra. (3). Groups, rings and fields. Prerequisite: Math. 511 or departmental consent. A 20 513 0 1701

545. Calculus IV. (3). Topics in multi-variable calculus, including line and surface integrals, Green’s Theorem, Stoke’s Theorem, the Divergence Theorem and the Implicit Function Theorem. Prerequisite: Math. 344 with C or better. A 20 545 0 1701

547. Advanced Calculus I. (3). A detailed study of limits, continuity and integration. Prerequisite: Math. 344 with a C or better. A 20 547 0 1701

550. Ordinary Differential Equations. (3). An investigation of integrating factors, separation of variables, critical points, linear differential equations with constant coefficients, variation of parameters and existence and uniqueness for initial value problems and systems. Prerequisite: Math. 344 with a C or better. A 20 550 0 1703

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 use of the computer. Prerequisites: CS 201, 202 or 205 and Math. 344 with C or better, or departmental consent. A 20 551 1 1703

557. Optimization Theory. (3). An introduction to selected topics in linear and nonlinear optimization. The revised simplex method is developed along with a careful treatment of duality. The theory is then extended to solve parametric, integer and mixed integer linear programs. Other topics include additional methods in integer and mixed integer linear programs and classical methods in nonlinear optimization. Prerequisite: Math. 511. A 20 557 0 1703

580. Selected Topics in Mathematics. (3). Topic to be chosen from among topics not otherwise represented in the curriculum. May be repeated up to a maximum of 6 hours credit with departmental consent. Prerequisite: departmental consent. A 20 580 0 1701

590. Introduction to Mathematical Logic. (3). A study of symbolic logic and an axiomatic development of propositional calculus. Boolean algebra, switching circuits, predicate calculus and formal languages are covered, with emphasis on formulating mathematical systems. Prerequisite: Math. 511 or departmental consent. A 20 590 0 1701

615. Elementary Number Theory. (3). Properties of the integers studied by elementary means. Prerequisites: Math. 144 and upper division standing or Math. 344 or departmental consent. A 20 615 0 1701

621. Elementary Geometry. (3). A study of the structure of Euclidean geometry. Prerequisite: Math. 144 or 243. A 20 621 0 1701

640. Advanced Calculus II. (3). An examination of the calculus of functions of several variables and line and surface integrals. Prerequisites: Math. 511 and 547 with a C or better in each. A 20 640 0 1701

651. Engineering Mathematics I. (3). A survey of some of the mathematical techniques most often needed in engineering. The course includes vector analysis, a brief introduction to matrices and determinants, Fourier series, Legendre functions, Bessel functions and the applications of these tools to the solution of boundary value problems. No credit given toward a major in mathematics. Prerequisite: Math. 550 with a C or better. A 20 651 0 1703

713. Abstract Algebra I. (3). A treatment of the standard basic topics in abstract algebra. Prerequisite: Math. 513 or departmental consent. A 20 713 0 1701

720. Modern Geometry. (3). A study of fundamental concepts of geometry. Prerequisite: Math. 513 or departmental consent. A 20 720 0 1701

725. Topology I. (3). An investigation of point set and algebraic topology. Prerequisite: Math. 547 or departmental consent. A 20 725 0 1701

743. Real Analysis I. (3). A study of the foundations of analysis and the fundamental results of modern real analysis. Prerequisite: Math. 547 or departmental consent. A 20 743 0 1701

745. Complex Analysis I. (3). An investigation of the theory of analytic functions. Prerequisite: Math. 545, 547 or 651, or departmental consent. A 20 745 0 1701

750. Workshop. (1-3). Topics appropriate for mathematics workshops that are not in current mathematics courses. May be repeated to a total of 6 hours credit with departmental consent. Prerequisite: departmental consent. A 20 750 2 1701

751. Numerical Analysis I. (3). A treat-
ment of numerical approximations of solutions to initial and boundary value problems of ordinary and partial differential equations. Prerequisite: Math. 547 or departmental consent. A 20 751 0 1703

752. Engineering Mathematics II. (3). A study of solution techniques for the partial differential equations of mathematical physics. Methods that are included are Green's function techniques, separation of variables and integral transform methods. Not open to mathematics majors. Prerequisite: Math. 651. A 20 752 0 1703


Courses for Graduate Students Only

801-802. Topics for Mathematics Teachers I and II. (3-3). Topics for secondary school mathematics teachers that relate to the secondary school mathematics curriculum. Topics are chosen according to the needs and interests of individual students. Repeatable for credit with departmental consent. Not applicable toward the MS in mathematics. A 20 801 0 1701; A 20 802 0 1701

813. Abstract Algebra II. (3). A continuation of Math. 713. Prerequisite: Math. 713 or equivalent. A 20 813 0 1701

818. Selected Topics in Number Theory. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 818 0 1701

819. Selected Topics in Algebra. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 819 0 1701

825. Topology II. (3). A continuation of Math. 725. Prerequisite: Math. 725 or equivalent. A 20 825 0 1701

828. Selected Topics in Topology. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 828 0 1701

829. Selected Topics in Geometry. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 829 0 1701

839. Selected Topics in Foundations of Mathematics. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 839 0 1701

843. Real Analysis II. (3). A continuation of Math. 743. Prerequisite: Math. 743 or equivalent. A 20 843 0 1701

845. Complex Analysis II. (3). A continuation of Math. 745. Prerequisite: Math. 745 or equivalent. A 20 845 0 1701

849. Selected Topics in Analysis. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 849 0 1701

850. Ordinary Differential Equations. (3). Existence, uniqueness, stability and other qualitative theories of ordinary differential equations. Prerequisite: either Math. 545 or 547, or departmental consent. A 20 850 0 1701

851. Numerical Analysis II. (3). A continuation of Math. 751. Prerequisite: Math. 751 or equivalent. A 20 851 0 1703


857-858. Selected Topics in Engineering Mathematics I and II. (3-3). Advanced topics in mathematics of interest to engineering students, including such topics as tensor analysis, calculus of variations and partial differential equations. Not applicable toward the MS in mathematics. A 20 857 0 1703; A 20 858 0 1703

859. Selected Topics in Applied Mathematics. (2-3). Repeatable with departmental consent. A 20 859 0 1703

880. Proseminar. (1). Oral presentation of research in areas of interest to the students. Prerequisite: major standing. A 20 880 3 1701

881. Individual Reading. (1-5). Prerequisite: departmental consent. Repeatable up to a maximum of 5 hours with departmental consent. A 20 881 3 1701

885. Thesis. (1-4). May be repeated to a maximum of 4 hours credit. Prerequisite: departmental consent. A 20 885 4 1701

STATISTICS

There is no major or minor in statistics.

Lower Division Course

170. Statistics Appreciation. (3). A non-technical course stressing and explaining
how statistics and probability help to solve some important problems in a variety of fields (e.g., biology, economics, education, government, health sciences, social sciences, etc.). The material is developed by examples rather than by traditional statistical methods and does not require any special knowledge of mathematics. A 20 170 0 1702

**Upper Division Courses**

360. Elementary Probability. (3). Probability functions, random variables and expectation of finite sample spaces. Prerequisite: Math. 111, 112 or 331. A 20 360 0 1701

370. Elementary Statistics. (3). A survey of elementary descriptive statistics, binomial and normal distributions, elementary problems of statistical inference, linear correlation and regression. Not open to students with credit in Math. 243 or to mathematics majors. Prerequisite: Math. 109, 110, 112 or 331. A 20 370 1 1702

**Courses for Graduate/Undergraduate Credit**

Credit in courses numbered below 600 does not apply toward the MS in mathematics.

570. Special Topics in Statistics. (3). Topics of interest not otherwise available. Prerequisite: departmental consent. A 20 570 1 1702

571-572. Statistical Methods I and II. (3-3). Probability models, points and interval estimates, statistical tests of hypothesis, correlation and regression analysis, introduction to nonparametric statistical techniques, least squares, analysis of variance and topics in design of experiments. Prerequisite: Math. 144 or 243 or departmental consent. A 20 571 1 1702; A 20 572 1 1702

574. Elementary Survey Sampling. (3). A brief review of basic statistical concepts and simple random, stratified, cluster and systematic sampling; selection of sample size, ratio and estimation and costs. Applications will involve problems from the social and natural sciences, business and other disciplines. Prerequisite: any elementary course in statistics, such as Stat. 370, Soc. 310 or Psych. 442. A 20 574 1 1702

576. Applied Nonparametric Statistical Methods. (3). Assumptions and needs for nonparametric tests, rank tests and other nonparametric inferential techniques. Applications will involve problems from engineering, medicine, education, social and natural sciences, and other disciplines. Prerequisite: any elementary statistics course such as Stat. 370, Soc. 310 or Psych. 442. A 20 576 1 1702

661. Probability. (3). A study of axioms of probability, discrete and continuous random variables, expectation, examples of distribution functions, moment generating functions, and sequences of random variables. Prerequisite: Math. 344 with C or better. A 20 661 0 1701

762. Applied Stochastic Processes. (3). A study of random variables, expectation, limit theorems, Markov chains and stochastic processes. Prerequisite: Stat. 661 or 771 or departmental consent. A 20 762 0 1702

771-772. Theory of Statistics I and II. (3-3). An examination of stochastic dependence, distributions of functions of random variables limiting distributions, order statistics, theory of statistical inference, nonparametric tests and analysis of variance and covariance. Prerequisite: Math. 545 or 547 with C or better or departmental consent. A 20 771 0 1702; A 20 772 0 1702

**Courses for Graduate Students Only**

878. Special Topics. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 878 0 1702

879. Individual Reading. (1-5). Prerequisite: departmental consent. A 20 879 3 1702

**Minority Studies**

The goal of the Department of Minority Studies is to prepare students for service to the entire community through a coherent and socially
relevant education—both humanistic and pragmatic—thereby enriching the total society.

The department offers courses and programs to stimulate favorable interaction among people, thus reducing racial tension. Emphasis in the department is on cross-cultural communication, which stresses the uniqueness of the individual's language and behavior as it relates to communications across racial and cultural lines. Minority studies also offers experiences that allow students to explore their own uniqueness and provides methods for interacting favorably with other people.

The curriculum is geared to developing the student in three areas: (1) as a unique individual, (2) as a participant-leader in an age of technology and (3) as a trained specialist and humanist. The three overlap, allowing the department to address itself to both curriculum and community.

The department does not agree with those who oversimplify the Black, Chicano or Indian situation by denying that members of these minority groups are any different from other Americans and implying that they should not be singled out for special attention.

The department becomes equally impatient with advocates of a complete restoration of Black, Indian or Chicano cultures. The realities of life prevent return to idyllic lifestyles, devoid of technological accomplishments of mass communication, mass production, mass transportation, mass education and mass medical treatment.

Major. The major in minority studies consists of at least 24 hours, including Min. Stud. 210; any two of Min. Stud. 240, 331, 332, 333 or 334; Min. Stud. 337, 338 or 399; Min. Stud. 540; Min. Stud. 545; and Min. Stud. 548. A concentration of not fewer than 15 hours in one additional field of study at Wichita State must also be taken. Minority studies majors must follow this sequence unless deviations are approved in advance by the department.

Certain courses in related areas that meet the particular needs of the student and are approved by an adviser may be counted toward a major. These courses may not count for more than 6 hours.

Minor. A minor in minority studies consists of at least 15 hours. The courses are to be approved by the student's adviser in the department and must include Min. Stud. 210; any two of 240, 331, 332, 333 or 334; 337, 338 or 399; and 380.

Lower Division Courses

100. Introduction to Minority Studies. (3). Orientation to the nature and scope of minority studies. Emphasis is placed on the unique nature of the experiences of minority groups in this country. A cursory examination of some alternative styles of behavior in dealing with problems peculiar to minority people in the United States is also undertaken. A 30 100 0 2299

210. Fundamentals of Cross-Cultural Communications. (3). An examination of the effects of different cultures on language and methods of communicating. A study of communications and its relationship to behavior in this country also is made. A 30 210 0 4999

240. Minority Women in America. (3).
Cross-listed as WS 240. An examination of the lives, talents and contributions made by minority women to the American culture. An analysis of the misconceptions about minority women that have been generated and perpetuated through the ages by providing accurate information about their lives and attitudes. To help people relate better to minority women in America and understand their attitudes, sensitivities and emotions. A 30 240 0 2299

**Upper Division Courses**

331. Individual Group Cross-Cultural Communications—Black. (3). Designed to enable students to explore their own unique characters and behavioral traits as related to their particular ethnic group. The relationship between their particular ethnic group’s language and behavior also is explored. Prerequisite: Min. Stud. 210. A 30 331 0 4999

332. Individual Group Cross-Cultural Communications—Indian. (3). Designed to enable students to explore their own unique characters and behavioral traits as related to their particular ethnic group. The relationship between their particular ethnic group’s language and behavior also is explored. Prerequisite: Min. Stud. 210. A 30 332 0 4999

333. Individual Group Cross-Cultural Communications—Chicano. (3). Designed to enable students to explore their own unique characters and behavioral traits as related to their particular ethnic group. The relationship between their particular ethnic group’s language and behavior also is explored. Prerequisite: Min. Stud. 210. A 30 333 0 4999

334. Individual Group Cross-Cultural Communications—White. (3). Designed to enable students to explore their own unique characters and behavioral traits as related to their particular ethnic group. The relationship between their particular ethnic group’s language and behavior also is explored. Prerequisite: Min. Stud. 210. A 30 334 0 4999

337. Biracial Cross-Cultural Communications—Black/White. (3). An examination of concepts and behaviors useful in analyzing interpersonal behavior in an organizational setting between two selected ethnic groups. Reading and face-to-face encounters with situations involving progress of morale, productivity, motivation, leadership, authority, communication and the introduction of change are used to bring about an understanding of these areas of human interaction. Prerequisite: Min. Stud. 331, 332, 333 or 334. A 30 337 0 4999

338. Biracial Cross-Cultural Communications—Indian/Chicano. (3). An examination of concepts and behaviors useful in analyzing interpersonal behavior in an organizational setting between two selected ethnic groups. Readings and face-to-face encounters with situations involving progress of morale, productivity, motivation, leadership, authority, communication and the introduction of change are used to bring about an understanding of these areas of human interaction. Prerequisite: Min. Stud. 331, 332, 333 or 334. A 30 338 0 4999

380. Multiracial Cross-Cultural Communications. (3). A special laboratory group experience for advanced students. Leadership styles, group development skills and interpersonal competence in a multiethnic setting are developed. Prerequisite: Min. Stud. 337 or 338. A 30 380 0 4999

399. Prominent Minorities in the Making of America. (3). Designed to explore, compare and contrast minority thought and processes for social, economical and political reform. Class delves into the social concepts of prominent American minorities through the coverage of popular novels, biographies, autobiographies, rhetoric, etc. Prerequisite: Min. Stud. 100. A 30 399 0 2299

**Courses for Graduate/Undergraduate Credit**

540. Advanced Multiracial Cross-Cultural Communications. (3). An advanced study on special topics in human relations. Prerequisite: Min. Stud. 380 or concurrent enrollment. A 30 540 0 4999

545. Cross-Cultural Communications Theory. (3). Varying in content, this course offers specific consideration of important areas of cross-cultural communications such as current issues, theory of structured exercises and laboratory planning. Prerequisite: Min. Stud. 540 or concurrent enrollment. A 30 545 0 4999

548. Practicum in Cross-Cultural Communications. (3). An investigation and analysis of methods of creative research in cross-cultural communications, with emphasis on innovative designs that can gather legitimate data on specific ethnic groups. The setting up and design of a
research prospectus is fundamental. Also evaluative research will be studied. Prerequisite: Min. Stud. 545 or concurrent enrollment. A 30 548 2 4999

580. Individual Projects. (3). Course is designed to provide the student with an educational and experimental background that relates to the minority experience in America. Lectures, written assignments, encounter groups and related research in the minority communities constitute the teaching methodology for the course. Prerequisite: 50 hours of Wichita State credit or departmental consent. A 30 580 3 2299

725. Concepts of Cross-Cultural Communications. (3). A critical survey of the concepts of cross-cultural communications. An in-depth examination of the rationale used to evaluate different ethnic groups, language and behavior. This course provides a conceptual understanding of special implications and necessary adaptations of communications to, between and among diverse ethnic groups in our society. Selections from scholars such as Prosser, Smith, Jahn, Giffin, Patton, Power, Goffman, Rogers and Aranguren will be studied. A 30 725 2 4999

750. Workshop. (1-4). Workshops are focused on the nature and scope of minority studies. Emphasis is given to the unique nature of the experiences of minority groups in this country. A cursory examination of some alternative styles of behavior to deal with problems peculiar to minority people in the United States is undertaken. A 30 750 2 4999

Music
See College of Fine Arts section for requirements and curriculum.

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 sub-atomic particles, the existence of God, the criteria of aesthetic evaluation, the structure of logical reasoning and the foundations (if any) of morality. Because of the breadth of the philosophical enterprise, the study of philosophy can be approached from many directions and need not involve a hierarchy of prerequisites. Philosophy majors pursue many careers—teaching, law, medicine, city management, carpentry and sales. The philosophy department reflects the
breadth and diversity of the philosophical enterprise and offers a wide variety of courses.

**Major.** A major requires a minimum of 27 hours of philosophy courses, at least 15 of which must be in courses numbered 300 or above. Each major must meet with a departmental adviser at least once a semester to plan or review a program of study. These programs will be 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 will count toward a major. Additional hours may be counted with the adviser's consent.

**Minor.** A minor consists of 15 hours of philosophy courses, selected in consultation with a departmental adviser, that will orient students to the philosophic aspects of their major fields.

### Lower Division Courses

**100G. The Meaning of Philosophy.** (3). An exploration of the meaning of philosophical activity. Through an examination of several basic interpretations of the distinguishing intentions, characteristic procedures and essential functions of the philosophic endeavor, this course seeks to introduce the student to some of the fundamental problems and possible values of philosophy. The underlying purpose of this course is to develop in the student a broad understanding of the meaning of philosophy as a diverse and self-critical historical enterprise. A 24 100 G 0 1509

**121. Introduction to Philosophy.** (3). A study of philosophical questions about ethics, religion, politics, human nature, knowledge and reality. The course attempts to assist students in developing their own views and the ability to respond intelligently to philosophical questions. A 24 121 0 1509

**125. Thinking Straight.** (3). This course deals with the uses of logical concepts and techniques in evaluating and criticizing ordinary inferences and arguments. Some elementary systems of formal logic are studied. Considerable class time is spent on the analysis and evaluation of arguments found in such diverse fields as law, politics, education, advertising and religion. A 24 125 0 1509

**200. Philosophic Classics.** (3). An examination of the development of Western philosophy from its beginning with the ancient Greeks to the present day with an emphasis on principal philosophers such as Plato, Aristotle, Aquinas, Descartes, Hume, Kant, Hegel and Mill. A 24 200 0 1509

### Upper Division Courses

**300G. Science and the Modern World.** (3). The aim of this course is to develop an understanding of the methods and accomplishments of science and how these have affected the way people understand themselves, society and the universe. The approach is both historical, with respect to the re-creation of the prescientific world view and the developments of science, and analytic, with respect to understanding the goals, methods and limits of contemporary
science. No prerequisite but prior completion of general education requirements in science is desirable. A 24 300 C 0 1509

301. Language and Philosophy. (3). This course examines the relationships between philosophy and language. It will focus 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? A 24 301 C 0 1509

307. Skepticism. (3). Skepticism has assumed many faces. It has been a recognition of the limits of knowledge, a sense for the incompleteness of the world and a meditation on and celebration of the uncertainties of life. These and other manifestations of the skeptical spirit will be examined in both classical and modern thought. Thinkers such as Socrates, Sextus Empiricus, Hume, Montaigne and Hallie will be consulted. A 24 307 C 0 1509

313. Political Philosophy. (3). Examination of various philosophical issues concerning political systems. Issues such as the nature of political authority, the rights of individuals, constitutionalism and civil disobedience will be discussed. A 24 313 C 0 1509

318. Recent British-American Philosophy. (3). Cross-listed as Amer. Stud. 318. Examination of philosophical ideas and movements in recent British and American philosophy. Movements such as logical positivism, pragmatism, ordinary language philosophy and analytic philosophy will be discussed. Readings will be selected from figures such as Russell, Wittgenstein, Pierce, Dewey and Quine. A 24 318 C 0 1509

320. Philosophy of Science. (3). A study of the methods, goals and world views of the sciences, with attention to such topics as the structure and evaluation of scientific theories, the nature of explanation, the dynamics of scientific revolutions and the impact of science on human society and values. A 24 320 C 0 1509

325. Formal Logic. (3). A study of systems of formal logic including sentential and predicate logic. The uses of these systems in the analysis of arguments is emphasized. A 24 325 C 0 1509

336. Reason and Revelation. (3). An exploration of the problem of establishing God's existence. The problem will be examined from its inception in both the Greek and Christian traditions but will stress medieval and recent attempts at a resolution. A 24 336 C 0 1509

346. Philosophy of Religion. (3). Cross-listed as Rel. 346. An examination of some basic religious problems such as the nature and grounds of religious belief, religious language, the existence and nature of God, human immortality and the problem of evil. A 24 346 C 0 1509

348. Anatomy of Revolution. (3). An attempt to understand the essential structure of revolution, especially the ideology of the revolutionary, and the philosophical justification and criticism of revolution as a moral procedure. A great spectrum of perspectives will be explored including such thinkers as Plato, Machiavelli, Luther, Hobbes, Locke, Rousseau, Kant, Hegel, Kierkegaard, Nietzsche, Marx, Marcuse and others. A 24 348 C 0 1509

349. Topics in Ancient Philosophy. (3). In each offering, this course explores one decisive issue in philosophy from the time of Thales through the Storics. 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 it is, the concept of the sacred, the meaning of language and the character of philosophical inquiry. A 24 349 C 0 1509

357. Recent European Philosophy. (3). In each edition this course will explore one or more central issues or themes in recent or contemporary continental philosophy. Each problem or topic will be explored within the context of one, some or all of the following philosophical movements or tendencies: idealism, phenomenology, existential thought, hermeneutic philosophy, dialectical materialism, Marxism and others as they arise. A 24 357 C 0 1509

360. Ethical Theory. (3). A study of selected topics in ethics. Issues such as the meaning and justification of moral judgments, the nature of morality, the relations between normative categories and the concept of justice, and the problem of revolution in moral schemes will be selected for investigation. Prerequisite: one course in philosophy. A 24 360 C 0 1509

366. Philosophy of Literature. (3). An exploration of the philosophic themes present in literature. Special attention is devoted to literature as an aesthetic phenomenon and the associated problems of the essential nature of literature as a particular art form, the author's intentions,
the criteria of aesthetic appreciation and literature as knowledge. Emphasis on the special type of literature—poetry, drama, the novel, the short story—is the instructor's choice. A 24 366 0 1509

375. Philosophy of the Arts. (3). An intensive examination of one or more fundamental problems or themes in the philosophy of art or in the special aesthetics of painting, music, sculpture, literature, drama, movies, etc. Some topics are: the problem of tragedy, the character of the aesthetic attitude, the function of the arts, the legitimacy of general art theory, the presuppositions of specialized art theory, the creative art, art and truth, art and life, and the nature and function of art criticism. A 24 375 0 1509

Courses for Graduate/Undergraduate Credit

501. Consciousness. (3). The structure and activities of consciousness and their significance as developed in 19th and 20th century continental philosophy. Emphasis will be placed on consciousness as the source of meaning in human experience, both cognitive and practical. Topics such as intentionality, freedom, temporality and creativity will be considered. Readings are from thinkers such as Hegel, Marx, Nietzsche, Husserl, Sartre, Heidegger, and Merleau-Ponty. A 24 501 0 1509

505. Philosophy of Education. (3). An examination of educational concepts with an emphasis on the implication of such concepts with respect to the problems of moral, political and religious education in a secular, democratic society. A 24 505 0 1509

508. Autonomy. (3). What is freedom? Many interpretations have been offered, but one of the most compelling claims that to be free is to be autonomous. We will reflect on this idea and its implications. What is the self? What does it mean for the self to be self-creative or self-determining? What restraints—physical, social or other—limit our autonomy? What distinguishes autonomous action from other kinds of behavior? Readings will focus on both the experience and practice of autonomy and its ontological foundations. Various authors such as Aristotle, Epicurus, Kant, Marx, Sartre and Ricoeur will be consulted. A 24 508 0 1509

511. Imagination. (3). Philosophers have conceived of the imagination as a powerful yet largely invisible force. Despite the difficulty of grasping it, thinkers as diverse as Plato and Kant have suggested that in some sense, imagination lies at the foundation of our experience and that it is one of the springs of reality. The course will examine this idea in an effort to determine (a) what the imagination is; (b) what role it can be said to play in the origination, development and presentation of experience; and (c) whether, and if so in what sense, it can be said that we imagine the world. A variety of philosophical sources will be considered, including Plato's conception of idea and its function in his myths, Kant's theory of imagination and Hegel's notion of Spirit and its creative self-development. We will also attempt to incorporate insights derived from the arts, especially architecture, painting and music. A 24 511 0 1509

519. Empiricism. (3). A study of the philosophical views that emphasize sensory experience rather than reasoning as a source of knowledge, with particular attention paid to the philosophies of Hobbes, Locke, Berkeley, Hume and Mill. A 24 519 0 1509

531. Ancient Greek Philosophy. (3). 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. A 24 531 0 1509

540. Theory of Knowledge. (3). A critical examination of the nature of knowledge and of the philosophical problems concerning skepticism; knowledge of the self; material objects; other minds; the past, present and future; universals; and necessary truths. Readings will include both historical and recent writings are included. Prerequisite: Phil. 121 or equivalent. A 24 540 0 1509

546. Rationalism. (3). A study of the philosophical views that emphasize reasoning rather than sensory experience as the source of knowledge, with particular attention paid to the philosophies of Descartes, Spinoza and Leibniz. A 24 546 0 1509

550. Metaphysics. (3). An exploration of some basic topics in the theory of reality. Issues include such notions as space, time, substance, causality, particulars, universals, appearance, essence and being. Prerequisite: Phil. 121 or equivalent. A 24 550 0 1509

555. Philosophy of the Social Sciences. (3). A study of such topics as the relations of social science with natural science and philosophy, methodological problems pe-
cular to social science, the nature of sound explanation, concepts and constructs, and the roles of mathematics and formal theories in social science. A 24 555 0 1509

585. Studies in a Major Philosopher. (3). A concentrated study of the thought of one major philosopher announced by the instructor when the course is scheduled. Repeatable for credit. Prerequisite: instructor's consent. A 24 585 0 1509

590. Special Studies. (3). Topic for study announced by instructor. Repeatable for credit. Prerequisite: instructor's consent. A 24 590 0 1509

650. Major Seminar. (3). Topic to be announced. The student will participate in the departmental faculty seminar. Prerequisite: departmental invitation. A 24 650 0 1509

699. Directed Readings. (2-3). A course designed for the student interested in doing independent study and research in a special area of interest. Repeatable for credit. Prerequisite: departmental consent. A 24 699 3 1509

Physics

Major. The following courses are required for a physics major: Phys. 213-214 or 311-312, 551, 621, 631-632, and 711; Math. 550 and either 545 or 547; and 5 hours of chemistry.

For the Bachelor of Arts (BA), 2 hours of Phys. 516 and 6 additional hours of physics are required.

For the Bachelor of Science (BS), 6 hours of Phys. 516, 8 additional hours of physics and 5 additional hours of chemistry are required. Ten hours of a foreign language also are required for the BS.

Chemical Physics Option. A student majoring in physics may select a chemical physics option. This option consists of the BS or BA requirements in physics, with Phys. 642 chosen as an elective, plus 6 hours of chemistry beyond the 111-112 sequence, to be chosen from Chem. 545, 546, 614 or 741.

Other Options. Other programs are available which provide the student an opportunity to combine the study of physics with an interest in another area. On an individual basis, students have included interests in astronomy, engineering, geology, computer science, biology and education.

Minor. A minor in physics consists of Phys. 213-214 or 311-312, and at least 6 additional hours of upper division physics.
Lower Division Courses

101. Contemporary Physics. (1-2). Designed for physics majors and other science-oriented students, to be taken early in their courses of study. The course will acquaint students with the subject matter of physics, the education and work of physicists and some of the more important and interesting current problems in the field. Not open to students with credit in Phys. 214, 312 or 314. Prerequisite: one year of high school algebra. A 21 101 0 1902

111. Introductory Physics. (5). 4R; 3L. A general physics course for liberal arts students and those who have not had physics in high school. Topics to be included are mechanics, heat, electricity and magnetism, wave phenomena, and modern physics. Not open to students who can meet prerequisites for Phys. 311. Prerequisite: one year of high school algebra. A 21 111 0 1902

195C. Introduction to Modern Astronomy. (4). A general survey course in astronomy intended for the student with little or no background in the physical sciences or mathematics. Subjects studied include the characteristics and origin of the solar system, the distribution, characteristics and evolution of stars and associated objects; and the nature and evolution of the universe. A 12 195C 0 1911

196. Laboratory in Modern Astronomy. (1). 3L. The application of the techniques and analysis of the data of modern astronomy. This course is intended for the student with some background in the physical sciences. When 196 is completed, 195C and 196 count as a laboratory science. Field trips are required. Prerequisites: two semesters of high school algebra or the equivalent, or instructor’s consent, and Phys. 195G, which may be taken concurrently. A 21 196 0 1911

198. Discovery in Astronomy. (3). A few selected topics in astronomy are discussed in depth to develop an understanding of the discoveries and problems of modern astronomy. Discussions are organized around readings from the current popular literature. Prerequisite: Phys. 195G. A 21 198 0 1911


This course is intended for students with a working knowledge of algebra and trigonometry but who have had no calculus. Prerequisite: high school trigonometry or Math. 112. A 21 213 0 1902

214. General College Physics II. (5). 4R; 3L. Electricity, light and modern physics. This course is a continuation of Phys. 213. Prerequisite: Phys. 213 or 311. A 21 214 0 1902

Upper Division Courses

311. Classical College Physics I. (5). 4R; 3L. Intended for students who have had an introduction to calculus. Mechanics, heat and wave motion are studied. High school physics is recommended as preparation for this course. Credit will not be given for both Phys. 214 and 311. Prerequisites: Math. 243. A 21 311 0 1902

312. Classical College Physics II. (5). 4R; 3L. A continuation of Phys. 311 and a study of electricity and optics. Credit will not be given for both Phys. 214 and 312. Prerequisites: Math. 243 with a grade of C or better and Phys. 213, with departmental consent, or Phys. 311. A 21 312 0 1902

313. Classical College Physics Lectures I. (4). This course is the lecture portion of Phys. 311 and carries the same prerequisites. Open only to engineering students. A 21 313 0 1902

314. Classical College Physics Lectures II. (4). This course is the lecture portion of Phys. 312 and carries the same prerequisites. Open only to engineering students. A 21 314 0 1902

316. General Physics Laboratory. (1-2). 3L. The general physics laboratory for students who have taken Phys. 313 and 314 and wish to transfer to liberal arts. Prerequisite: Phys. 313. A 21 316 1 1902

400. Special Studies in Physics. (1-2). Repeatable but total credit may not exceed 2 hours for physics majors. Prerequisite: departmental consent. A 21 400 3 1902

407. Seminar. (1). Student reports on topics of general interest in physics. Repeatable for credit up to 2 hours but may not be counted for credit toward a minor in physics. Prerequisites: completion of, or concurrent enrollment in, an upper division physics course and instructor’s consent. A 21 407 9 1902
Courses for Graduate/Undergraduate Credit

506. Special Studies in Physics for Educators. (5). 4R; 2L. Basic physical concepts that develop for the elementary school educator an understanding of physical science as presented in the modern elementary school science curriculum. Prerequisite: elementary education major or departmental consent. A 21 506 0 1902

516. Advanced Physics Laboratory. (2). 4L. Experiments in classical and modern physics designed to stress scientific methods and experimental techniques. The experiments are open-ended projects requiring individual study. Repeatable up to a maximum of 8 credit hours. Corequisite: Phys. 551. A 21 516 0 1902

551. Topics in Modern Physics. (3). An introduction to selected areas of modern physics, with emphasis on the features of atomic, nuclear and solid state physics that require modifications of classical physics for their explanation. Prerequisite: Phys. 214 or 312 or 314 or departmental consent. Corequisite: Math. 344. A 21 551 0 1902

555. Physical Optics. (3). Electromagnetic waves, diffraction and interference, radiation, scattering and optical properties of solids. Prerequisites: Phys. 214 or 312 and Math. 344. A 21 555 0 1902

601. Special Topics in Astrophysics. (1-2). Several topics in astronomy and astrophysics will be studied in depth. Lectures, independent readings and student projects may be assigned. May be repeated up to 6 hours. Prerequisites: Phys. 195G and 551. A 21 601 3 1912

621. Elementary Mechanics I. (3). Motion of a particle in one and several dimensions, central forces, the harmonic oscillator and the Lagrangian formulation of mechanics. Prerequisites: Phys. 214 or 315 with a grade of C or better and Math. 344 with a grade of C or better. A 21 621 0 1902


625. Electronics. (2). 1R; 4L. Provides a working knowledge of electronic devices and circuits for the student or research worker who has little or no background in electronics. Prerequisite: instructor's consent. A 21 625 0 1909

631. Electricity and Magnetism I. (3). Direct and alternating currents; electric and magnetic field theory, including an introduction to Maxwell's electromagnetic wave theory. Prerequisites: Phys. 214 or 312 with a grade of C or better and Math. 344 with a grade of C or better. A 21 631 0 1902

632. Electricity and Magnetism II. (3). A continuation of Phys. 631. Prerequisite: Phys. 631 or instructor's consent. A 21 632 0 1902

642. Chemical Physics. (3). Topics in areas of overlapping interests for students of chemistry and physics, such as thermodynamics, kinetics, quantum mechanics, solids and various types of spectroscopy. Standard experimental and theoretical techniques used in research in chemical physics are discussed by a team of chemists and physicists. Prerequisite: Phys. 711 or Chem. 641 or instructor's consent. A 21 642 0 1902

671. Thermophysics. (3). The laws of thermodynamics, distribution functions, Boltzmann equation, transport phenomena, fluctuations and an introduction to statistical mechanics. Prerequisites: Phys. 214 or 312 and Math. 344. A 21 671 0 1902

701. Advanced Topics in Physics. (3). A course on an advanced, current topic of interest in physics. The topic may be chosen from nuclear physics, solid state physics, astrophysics, biophysics or other areas. Prerequisite: Phys. 711 or departmental consent. A 21 701 0 1902

711. Modern Physics I. (3). Introduction to quantum mechanics, the Schroedinger equation, elementary perturbation theory and the hydrogen atom. Prerequisite: Phys. 551. A 21 711 0 1902


714. Theoretical Physics. (3). A study of mathematical techniques that may be applied to physics and other sciences. Topics to be covered typically include power series methods, WKB method, contour integration, integral transforms, Hilbert space, special functions and solutions of partial differential equations. Prerequisites: Math. 550 and instructor's consent. A 21 714 0 1902

715. Numerical Methods in Physics. (2). 1R; 3L. Applications of numerical

* Course may not be counted for credit toward a graduate physics major.
methods to problems in physics. Roots of equations, curve fitting, interpolation, extrapolation and smoothing of experimental data, numerical differentiation and integration, and solution of differential equations. The use of computer in numerical methods is included. Prerequisite: instructor's consent. A 21 715 0 1902

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. A 21 800 3 1902

801. Selected Topics in Physics. (2-3). Repeatable for credit up to 6 hours. Prerequisite: departmental consent. A 21 801 0 1902

807. Seminar. (1). Review of student periods; reports on student and faculty research. Repeatable for credit up to 2 hours. Prerequisite: 20 hours of physics. A 21 807 9 1902

809. Research and Thesis. (1-3). Repeatable for credit up to 6 hours. A 21 809 4 1902

811. Quantum Mechanics I. (3). Elementary principles, formulations and methods of quantum mechanics, with special application to atomic and molecular phenomena. Prerequisites: Phys. 621 and 711, or departmental consent and Math. 550. A 21 811 0 1902


832. Classical Electricity and Magnetism II. (3). A continuation of Phys. 831. Prerequisite: Phys. 831. A 21 832 0 1902

841. Nuclear Physics I. (3). The nuclear two-body problem and nuclear forces, models of the nucleus and nuclear decay. Prerequisite: Phys. 711. A 21 841 0 1902


871. Statistical Mechanics. (3). An introduction to the basic concepts and methods of statistical mechanics, with applications to simple physical systems. Prerequisites: Math. 550 and Phys. 621. A 21 871 0 1902

881. Solid State Physics I. (3). The basic knowledge of the nature and properties of the solid state, including the structural, thermal, mechanical, electrical and magnetic properties. Also studied are the electron theory of metals and hard theory of solids. Prerequisites: Phys. 551 or departmental consent and Math. 550. A 21 881 0 1902


Political Science

Major. A major consists of 30 hours, including Pol. Sci. 543 or 544 and 547 or 549; 3 hours each from groups 2, 3, 4 and 5 below; and enough additional hours to complete the 30-hour major requirement.

Minor. A minor consists of 3 hours from group 1 plus 12 additional hours, 6 of which must be in upper division courses.

Group 1, Political Theory—Pol. Sci. 232, 358, 543, 544, 546, 547, 549
Public Administration Option in Political Science. The goal of the public administration option is to prepare students for future entrance into public service. The option meets several needs. Many students in the social sciences plan for careers in the public sector, and there is evidence that public agency heads are demanding more and better qualified students with undergraduate degrees to face the challenges of the future in public service. Although the option emphasizes the preparation of undergraduates for public service, those who plan to enter graduate school in the fields of administration and public policy also will be prepared to undertake a more professional course of study.

A major with a public administration option consists of 36 hours, including Pol. Sci. 121, American Politics; Pol. Sci. 543, Classical and Medieval Political Theory, or Pol. Sci. 544, Modern Political Theory; Pol. Sci. 547, Contemporary Political Theory, or Pol. Sci. 549, Approaches to the Study of Political Science; one course from group 3 (comparative government) or group 4 (international relations); and the required hours from each area below.


Area C (6 hours)—Econ. 201, Principles of Economics I, and 3 hours in any of the following: Soc. 310, Sociological Statistics; Econ. 231, Introductory Business Statistics; Admin. 370, Quantitative Methods and Research; Math. (Statistics) 360, Elementary Probability; Psych. 315, Industrial Psychology; or computer science.

Because of the changing nature of public employment, political science students should take courses in statistics, computer concepts and/or a policy area composed of several courses concentrating on a single area of public policy.

Lower Division Courses

101G. Politics: Who Gets What. (3). A course focusing on some of the great political ideas and applying them to modern issues. Even if there are no eternal truths, there are eternal problems. Some of the major ideas will include the following: the rulers and the ruled, liberty versus order, the right of dissent, political obligation and issues of conscience. In addition, current policies developed will cover sex in politics, First Amendment freedoms, ethnic politics and the politics of oil. A 22 101G 0 2207

102. Politics: Who Gets What—Laboratory. (1-2). This laboratory explores the processes of social conflict. Students collect and analyze raw data to better understand political decision making. A 22 102 0 2207

103G. Games Nations Play: Problems in International Relations. (3). The immediate and most apparent aim of this course is to familiarize students with a number of international problems. The intention, however, is to achieve more general and
long-lasting aims rather than to transmit facts. The dual aims thus become the development of a sensitivity on the part of students to international problems that will be a part of their lives and to create a framework in which the students can analyze the international problems they encounter in the future. A 22 105G 0 2207

121. American Politics. (3). An analysis of the basic patterns and structure of the American political system, with emphasis on policies and problems of American politics. A 22 121 0 2207

150. Political Science Workshop. (1-3). Prerequisite: instructor's consent. A 22 150 0 2207

153. Model United Nations. (2-4). A workshop to prepare students to participate effectively in various model United Nations, especially the Midwest Model UN in St. Louis. A 22 153 0 2207

155. Practical Politics. (2-3). A course focusing on either election campaigns or legislative sessions depending on which is in progress during the specific semester the course is offered. During elections students are assigned to work for candidates and are also involved in a campaign simulation in class. During legislative sessions, both legislators and interest group leaders are involved. In addition, the class attends one of the legislative sessions in Topeka. A 22 155 0 2207

201. Dilemmas in Public Administration. (3). A course analyzing controversial issues in the administrative process. Key issues include the politics of lying, the public interest, the rule of law, loyalty, protest, regulation of business, public employees, property rights, social justice, science policy and censorship. A 22 201 0 2207

216. The Governments of Kansas. (3). An examination of the structure and function of state and local governments in Kansas. Emphasis upon policy formation and administration, finance and intergovernmental relations. A 22 216 0 2207

226. Comparative Politics. (3). An analysis of the basic patterns and structures of Western democratic and political systems, transitional systems and totalitarian systems. A 22 226 0 2207

227. Comparative Analysis of Western Democracies. (3). Analysis utilizing experience from Great Britain, France, the British-speaking Commonwealth and Western Europe, and analysis of the characteristics of these systems. A 22 227 0 2207

228. Autocracy, Dictatorship and Totalitarianism. (3). Nazi Germany, Fascist Italy and Communist systems receive special attention as major prototypes and variations of the systems being examined. More traditional dictatorships and one-party states also receive attention. Topics emphasized are conditions giving rise to these regimes, leaderships, ideology, terror, the party, revolutionary personalities, revolutionary takeovers, and problems and policies of these regimes. A 22 228 0 2207

232. Basic Ideas in Political Theory. (3). Introduces the student to recurring themes of political thought, examines their diverse meanings and considers problems that arise when values seem to be in contradiction. A 22 232 0 2207

Upper Division Courses

300. Political Analysis. (3). Introduction to traditional and scientific research approaches in political science. Attention is given to sources of data, data analysis, and problems and ethics of research. A 22 300 0 2207

301. Ethnic Politics. (3). An intensive analysis of the literature and data on the role of ethnic groups in the political system. Attention is given to the network of relationships that affects and is affected by ethnic groups. Participants in the course are expected to develop and complete a research project for presentation and evaluation. A 22 301 0 2207

311. American Democracy. (3). Currents in the development of American democracy, with emphasis on the ideas and ideals that have contributed to the development of Americanism and the literature that deals with those currents of thought. A 22 311 0 2207

315. The Presidency. (3). The presidency focuses upon the evolution of the presidential office, the recruitment of presidents and the nature of presidential power. A 22 315 0 2207
316. The Congress. (3). Focuses on the Congress, with particular attention to interest articulation at both state and national levels. A 22 316 0 2207

317. Urban Politics. (3). An analysis of politics in urban areas, including such topics as the nature and distribution of community power, influence and leadership, the nature of community conflict, the formation of policy, urban problems and political solutions, and trends in urban politics. A 22 317 0 2207

318. Political Parties. (3). The role of political parties in the American political decision-making process at the national, state and local levels. A 22 318 0 2207

319. State Government. (3). The role of the states in the federal system and the patterns of politics and institutions in the several states. Particular attention is given to the State of Kansas. A 22 319 0 2207

320. Politics of Developing Areas. (3). A survey of the political systems in Latin America, Africa, the Middle East, and south and southeastern Asia. Special attention is paid to colonialism as a system, the effects of colonialism and patterns of emerging nations. A 22 320 0 2207

321. Introduction to Public Administration. (3). Cross-listed as Geron. 321. A general survey of the scope and nature of public administration; policy and administration; administrative regulations and adjudication; organization and management; budgeting and fiscal management; public personnel administration; political, judicial and other controls over the administration. A 22 321 0 2207

325. Women in the Political System. (3). Cross-listed as WS 325. A course focusing on the role of women in the political system. It also examines governmental policy with respect to the roles and status of women in society in both an American and comparative context. A 22 325 0 2207

330. Soviet Politics and Government. (3). An in-depth look at the Soviet political system. Using the United States as a point of reference, the course compares political processes in the systems of the two superpowers. Topics for study include political ideas and politics; the political system and the individual, including treatment of political dissidents and uses of terror; lives of the elites and the masses; evolution and development of the Communist party of the Soviet Union; leadership selection; treatment of minorities; judicial systems; and problems and policies. A 22 330 0 2207

335 & 336. International Politics and Institutions. (3&3). 335: an analysis of the controls governing the nation-state system; special consideration of such concepts as balance of power, collective security, propaganda and diplomacy. 336: emphasis on international law and the development of international organizations. Either 335 or 336, but not both, may be accepted toward a major in history. A 22 335 0 2207 & A 22 336 0 2207

338. Soviet Foreign Policy. (3). The concept, content and control of Soviet foreign relations; instruments and tools of Soviet diplomacy; strategy and tactics; change and continuity from Russia to Soviet foreign relations and policy aims; and execution of foreign policy in selected areas. A 22 338 0 2207

353. Model United Nations. (2-4). A workshop to prepare students to participate effectively in various model United Nations, especially the Midwest Model UN in St. Louis. A 22 353 0 2207

354. Judicial Process and Behavior. (3). Focuses upon the behavior and policy-making roles of courts and judges. A 22 354 0 2207

355. Practical Politics. (2-3). A course focusing on either election campaigns or legislative sessions depending on which is in progress during the specific semester the course is offered. During elections students are assigned to work for candidates and are also involved in a campaign simulation in class. During legislative sessions, both legislators and interest group leaders are involved. In addition, the class attends one of the legislative sessions in Topeka. A 22 355 0 2207

358. American Political Thought. (3). Consideration of selected topics in the development of political ideas in the United States. A 22 358 0 2207

390. Special Topics in Political Science. (3). An analysis of selected titles in political science in a seminar setting. Content varies depending upon the instructor. Repeatable for credit. A 22 390 0 2207

398. Directed Readings. (3). A course designed for exceptional students to meet their needs and deficiencies. Repeatable for credit. Prerequisites: senior standing and departmental consent. A 22 398 3 3207

*Prerequisite made be waived with departmental consent.
Courses for
Graduate/Undergraduate Credit

505. The Politics of Health. (3). Cross-listed as HAE 505. A course designed to show how governments in the United States make decisions in the health field, describe the political forces shaping governmental policy in health, and analyze the arguments for and against an increased governmental role in health. A 22 505 0 2207

506. Politics of Aging. (3). Cross-listed as Geron. 501. This course will focus on the role of the elderly as competitors in the political arena. In assessing the elderly's strengths and weaknesses, we will analyze the following: the effects of aging on political behavior; strategies of the aging—both individual and collective; and the responses of the political system. A 22 506 0 2207

523. Government and Politics of Latin America. (3). An examination of the political institutions and processes that currently exist in the Latin American republics. Emphasis is on the social, economic and psychocultural factors affecting these institutions and processes. In addition, students are given an opportunity to participate in an original research experience. A 22 523 0 2207

524. Politics of Modern China. (3). Emphasis is on study of China's political system since 1949 in terms of non-Western goals and ideas of social organization. Themes of political integration and political development are used to minimize distortion or cultural bias. Study encompasses the roots of the political system, the system as it is now and the goals China is striving to realize. Some assessment is made about the future development of communism in China. Topics include Chinese communism and the ideological heritage; political culture; political leadership; leadership succession; political participation; the Chinese Communist Party; political communications and socialization; legal developments; policy choices; and major events, such as the Hundred Flowers Campaign, Great Leap Forward and the Proletarian Cultural Revolution. A 22 524 0 2207

525. Postindustrial Politics. (3). An examination and analysis of political systems and postindustrial politics in highly industrialized nations, such as the United States, Britain and Japan. Emphasizes cleavage patterns, stability-instability, party systems and comparative policy analysis. A 22 525 0 2207

526. Comparative Politics of the Middle East. (3). An examination of the political institutions and processes of Middle Eastern governments. The social, economic and Islamic culture factors that affect these institutions and processes are studied. A 22 526 0 2207

533. Policy Development in Foreign Relations. (3). The process of foreign policy making in the American structure of government. Particular attention is given to the problems of federalism and separation of powers in foreign policy development. A 22 533 0 2207

534. Problems in Foreign Policy. (3). An analysis of the alternative courses of action open to the United States in the present international political system. A 22 534 0 2207

539. Government and Politics in Asia. (3). The breakdown of the colonial systems during and after World War II. Japan, China, India, southeast Asia and southwest Asia are included, and the continuing political instability in Asia is studied. A 22 539 0 2207

540. American Political Behavior. (3). An intensive examination of the patterns of political behavior in the United States through primary and secondary analysis of existent data. Emphasis is given to the development and presentation of an original research paper. A 22 540 0 2207

543. Classical and Medieval Political Theory. (3). An analytical study of the major offerings of the Greek, Roman and feudal periods. The contributions of Plato, Aristotle and the Stoics are emphasized in the early period; the works of Seneca, Cicero and the Roman lawyers during the second; and the judicial impact of the feudal system and the philosophic legacy of the ecclesiastical writers during the third. (Not for students who have credit in Pol. Sci. 345, which is no longer offered.) A 22 543 0 2207

544. Modern Political Theory. (3). A description and analysis of the works of the principal political theorists of the modern state. Beginning with Machiavelli, the most persistent problems of early and modern nationalism are examined through the writings of Hobbes, Locke, Rousseau, Hegel, Burke, Marx and others. A 22 544 0 2207

546. Seminar on Comparative Marxism. (3). An examination and evaluation of the ideas that have helped to shape the ideologies of the various party-states. The contributions of Marx, Engels, Kautsky,
Bernstein, Luxemburg, Lenin, Trotsky, Stalin, Mao, Khrushchev, Tito, Togliatti and others are included. A 22 546 9 2207

547. Contemporary Political Theory. (3). Major patterns and developments in political thought in the 20th century. The course emphasizes controversies over the role and purpose of political philosophy in modern society. A 22 547 0 2207

549. Approaches to the Study of Political Science. (3). A comparative study of representative conceptual frameworks to give the undergraduate student of politics an appreciation of the work of the professional scholar, its possibilities and limitations. An emphasis is placed on critical evaluation of such approaches. A 22 549 0 2207

551. Public Law. (3). An analysis of the role of appellate courts—especially of the U.S. Supreme Court—in the American political system. Emphasis is placed upon judicial review of state and federal legislation, the separation of powers, federalism, the taxing power and the commerce clause. A 22 551 0 2207

552. Civil Liberties. (3). An analysis of the role of the appellate courts—especially of the U.S. Supreme Court—in the American political system. Emphasis is placed upon the guarantees of the Bill of Rights and the 14th Amendment. A 22 552 0 2207

560. The Planning Process. (3). This course is of use to students desiring to work in an urban planning agency or who will be involved in planning issues as an administrator at the city, county, state or federal level. It is also of value to students seeking an understanding of the complex process of urban-related life. The role of planning in solving human and environmental problems is examined. Emphasis is given to the relationship between specialists, citizens and elective officials as participants in the planning process. A 22 560 0 2207

561. Public Management of Human Resources. (3). The course surveys the major areas of management of human resources in the public sector. These include hiring, training, evaluation and pay promotion policies. Special emphasis is given to the laws governing public personnel management and to the unique merit, equal employment opportunity, productivity, unionization and collective bargaining problems found in the public sector. A 23 561 0 2207

564. Comparative Public Administration. (3). A study of the administrative system of selected developed and developing countries, with special attention to the various methods and approaches of comparative analysis and to the relationships between administrative institutions and their environmental settings. A 22 564 0 2207

580. Administration and the Policy Making Process. (3). The problems of government encountered in the administration of public policy. The approach is analytical rather than descriptive. Repeatable for credit. A 22 580 0 2207

587. Administrative Theory and Behavior. (3). Cross-listed as Geron. 587. A study of organization theory and the various approaches to the study of organization. A 22 587 0 2207

655. Urban Government Finance. (3). Cross-listed as Econ. 655. Analysis of urban government expenditure and revenue systems. Introduction to urban financial administration. A 22 655 0 2207

657. Introduction to Urban Affairs. (3). Cross-listed as Econ. 657 and Soc. 687. An introduction to the study of the metropolis as a social, political and economic system. Prerequisites: Econ. 202 and a course in sociology or political science or instructor’s consent. A 22 687 0 2207

700. Advanced Directed Readings. (3). Repeatable for credit. Prerequisite: departmental consent. A 22 700 0 2207

701. Method and Scope of Political Science. (3). Emphasizes philosophy of science and methodology (as distinguished from method and technique) and exposes the student to recent works of methodological import in the various subfields within the discipline. Prerequisite: departmental consent. A 22 701 0 2207

702. Statistical Applications. (3). Emphasizes applications of data in political science. Prerequisite: departmental consent. A 22 702 0 2207

703. Proseminar in Political Science. (3). An examination of predominant concepts, theories and ideas of the discipline and its constituent subfields; required of degree-status graduate students upon entrance. Prerequisite: departmental consent. A 22 703 0 2207

750. Workshop. (2-4). Prerequisite: instructor’s consent. A 22 750 0 2207

Courses for Graduate Students Only

810. Seminar in Comparative Govern-
ment. (3). The comparative study of selected aspects of the politics and institutions of foreign governments. Prerequisite: departmental consent. A 22 810 9 2207

820. Seminar: The Administrative Process. (3). Consideration of the process and environment of administration, with special attention given to the role of the executive in policy formulation, organization, planning, budgeting, staffing, coordination, communications and administrative responsibility. Prerequisite: departmental consent. A 22 820 9 2207

821. The Budgetary Process. (3). Analysis of the development and utilization of the budgetary process in government administration, with special attention given to the budget in relation to its role in policy formulation. Prerequisite: departmental consent. A 22 820 9 2207

835. Seminar in International Relations. (3). Analysis of special problems in, and approaches to, the study of international relations. Prerequisite: departmental consent. A 22 835 9 2207

837. Seminar in Soviet Government. (3). An analysis and evaluation of approaches to the study of the Soviet political system, including an in-depth examination of selected facets of the system. Prerequisite: departmental consent. A 22 837 9 2207

841. Seminar in Urban Politics. (3). An intensive analysis of urban politics, with emphasis on individual research projects. Prerequisite: departmental consent. A 22 841 9 2207

842. Administration in Local Government. (3). Examination of administrative processes and problems in local government, including the role of the professional chief executive. Problems examined are drawn from the following: labor-management relations, program evaluation, county government reform, governmental decentralization, citizen participation, grant-in-aid programs, interlocal cooperation, affirmative action requirements and service contracting. Prerequisite: Pol. Sci. 317. A 22 842 9 2207

844. Seminar in Political Theory I. (3). Emphasizes topics selected for their significance in the development and content of political theory. Prerequisite: departmental consent. A 22 844 9 2207

845. Seminar in Political Theory II. (3). Detailed study of the relevant works of a major political philosopher and his/her contribution to contemporary thought. Prerequisite: departmental consent. A 22 845 9 2207

851. Seminar in Public Law and Judicial Behavior. (3). Analysis of special problems in and approaches to the study of legal systems. Emphasis is given to developing the student's awareness of research in the field. Prerequisite: departmental consent. A 22 851 9 2207

855. Seminar in Public Finance Systems. (3). An analytical study of selected topics in the politics and administration of revenue, expenditure and borrowing policies of governmental organizations. Prerequisite: departmental consent. A 22 855 9 2207

856. Seminar in American Politics and Institutions. (3). Analytical study of selected topics in American political behavior, with emphasis on individual research. Repeatable for credit when content differs substantially. Prerequisite: departmental consent. A 22 856 9 2207

874. Internship. (3-6). An intensive applied learning experience supervised by a university department or committee. To receive credit, a student must secure approval of a written report from his/her own department. Prerequisite: departmental consent. A 22 874 2 2207

875. Research Design. (3). 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. A 22 875 4 2207

876. Thesis. (3). A 22 876 4 2207

Psychology

Courses are designed for (1) students who elect to study particular aspects of psychology while majoring in other disciplines; (2) students who plan to major in psychology, but do not plan for graduate study in the discipline; and (3) students who plan to major in psychology and go into graduate study in psychology. Students planning graduate
study should check with the department for recommended undergraduate course sequences for preparation in particular emphases in graduate study.

**Major.** The major consists of a minimum of 30 hours. Psych. 111 is a prerequisite for all other psychology courses. All majors are required to take Psych. 111, 211, 212 and 213 plus a minimum of 12 hours of 500- and 600-level courses. Psych. 442 and 613 are strongly recommended for majors. Other courses should be selected in consultation with a departmental adviser.

**Minor.** The minor consists of a minimum of 15 hours selected in consultation with the student’s major adviser.

### Lower Division Courses

111. **General Psychology.** (3). An introduction to the general principles and areas of psychology. A 23 111 0 2001

211. (311). **Advanced General Psychology I.** (3). A more intensive study of topics from Psych. 111: history and classical schools of psychology, contemporary systems, theories and research in basic areas of psychology. Prerequisite: Psych. 111. A 23 211 0 2001

212. (312). **Advanced General Psychology II.** (3). A continuation of Psych. 211. Prerequisite: Psych. 211. A 23 212 0 2001

213. (112). **General Psychology Laboratory.** (3). 1R, 4L. Introduction to scientific methods in psychology. Prerequisites: Psych. 211 and 212 or concurrent enrollment in Psych. 212. A 23 213 1 2002

### Upper Division Courses

315. **Industrial Psychology.** (3). An introduction to the psychological aspects of industry. Prerequisite: Psych. 111. A 23 315 0 2008

347. **Social Psychology.** (3). A psychological study of the individual in the social situation. Prerequisite: Psych. 111. A 23 347 0 2005

361. **Child Psychology.** (3). The infant and child with special reference to their behavioral development. Prerequisite: Psych. 111. A 23 361 0 2009

365. **Psychology of Aging.** (3). Cross-listed as Geron. 365. An exploration of current research on the individual’s behavioral response to the processes of aging, focusing on changes in attitudes, emotions, personality, psychopathology, intellectual skills and achievement after physical maturity. Prerequisite: Psych. 111. A 23 365 0 2009

375. **Psychology of Personality.** (3). Theoretical concepts, factors in development and methods of assessing personality. Prerequisite: Psych. 111. A 23 375 0 2001

380. **Psychology and Problems of Society.** (3). A study of psychological research and principles applied to various contemporary social issues and problems. Prerequisite: Psych. 111. A 23 380 0 2005

381. **Introduction to Applied Behavior Analysis and Social Learning.** (3). A study of the basic assumptions, principles, and issues of behavior therapy and social learning and of current applications of this general approach to problems in living in a variety of settings such as mental hospitals, prisons, institutional and group home treatment for juvenile delinquents, classrooms for normal and special children, marital conflict, parenting skills, drug abuse, obesity, social skills and depression. Prerequisite: Psych. 111. A 23 381 0 2003

400. **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.

When two course numbers are given at the beginning of a course description, the first number refers to the current course number, and the one in parentheses refers to the course’s previous number.

*Fairmount College/Psychology 389*
Repeatable for a maximum of 6 credit hours, but only 3 hours may be earned per semester. Prerequisites: Psych. 111 and departmental consent. A 23 400 2 2005

442. Psychological Statistics. (3). Emphasizes basic quantitative techniques in measurement and evaluation of behavior. Prerequisites: Psych. 213 and Math. 111 or 112.* A 23 442 0 2007

Courses for Graduate/Undergraduate Credit


544. Introduction to Psychopathology. (3). Individual differences and their relation to “normal” behavior. Prerequisite: Psych. 375 or 381.* A 23 544 0 2001

545. Psycholinguistics. (3). Cross-listed as Ling. 545. Survey of psychological, linguistic and informational analyses of language. Prerequisite: Psych. 211.* A 23 545 0 2001

547. Advanced Social Psychology. (3). An intensive review of selected contemporary issues in social psychology. Prerequisite: Psych. 347 or instructor’s consent. A 23 547 0 2005

550. Physiological Psychology. (3). Physiological factors in behavior. This course does not carry graduate credit for psychology majors. Prerequisite: Psych. 211.* A 23 550 0 2010

554. Psychological Testing and Measurement. (3). A survey of the psychological foundation of tests and the interpretation and evaluation of test findings. Prerequisites: Psych. 212, 213 and 442.* A 23 554 0 2006

560. Psychology Tutorial. (3). See WS 560. Selected topics in psychology. Repeatable for a maximum of 6 hours of credit. Prerequisites: an average of B in psychology courses, which must include Psych. 211 and 212, or instructor’s consent. A 23 560 2 2001

565. Psychology of Learning. (3). A survey of research and theory in learning. This course does not carry graduate credit for psychology majors. Prerequisites: Psych. 211 and 212.* A 23 565 0 2001

570. Comparative Psychology. (3). Psychological and ethological analysis of behavior. The evolution and ontogenetic development of behavior are stressed. Lectures are supplemented by field trips and ethological projects. This course does not carry graduate credit for psychology majors. Prerequisite: Psych. 111.* A 23 570 0 2001

573. Motivation. (3). Current and classical problems concerning theory and research in motivation. This course does not carry graduate credit for psychology majors. Prerequisites: Psych. 211 and 212.* A 23 573 0 2001

575. Advanced Psychology of Personality. (3). More intensive treatment of the topics of Psych. 375. Prerequisites: Psych. 375 and 442.* A 23 575 0 2001

580. Practicum in Applied Behavior Analysis and Social Learning. (3). The goals of this course are to train the student in the basic procedures of applied-social behavior analysis: designing data collection systems and applying behavior change strategies to an individual who is currently experiencing a problem in living. Training will occur in the departmental clinic or in community agencies under the supervision of faculty/agency staff. Repeatable once for a total of 6 hours. This course does not carry graduate credit for clinical-experimental graduate students. Prerequisites: Psych. 211, 361, 381, a final grade of B or above in Psych. 381, and instructor’s consent.* A 23 580 2 2001

582. Advanced Behavior Therapy/Social Learning. (3). Further study of selected topics, such as problem solving, systems analysis, cognitive-behavior therapy, token economies, biofeedback and ethics of control of human behavior. With instructor’s consent, advanced practicum or a research project may also be undertaken in departmental clinic or community agencies. This course does not carry graduate credit for clinical-experimental graduate students. Prerequisites: Psych. 212, 544, 580 and instructor’s consent.* A 23 582 9 2001

* With sufficient reason a student may apply for instructor’s consent to waive course prerequisites.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R; 4L means 3 hours of lecture and 4 hours of lab.
585. Psychology of Perception. (3). Theory and research in sensing and perceiving processes. This course does not carry graduate credit for psychology majors. Prerequisites: Psych. 211 and 550. A 23 585 0 2001

590. Psychology of Women. (3). Cross-listed as WS 590. Psychological assumptions, research and theories of the roles, behaviors and potential of women in contemporary society. Prerequisite: Psych. 111. A 23 590 0 2001

610. History of Psychology. (3). Psychological theory and experimentation from ancient to modern times. Prerequisite: 9 hours of psychology. A 23 610 0 2001

613. (443). Experimental Psychology. (3). 2R; 2L. Laboratory study of behavior stressing experimental design and research techniques. This course does not carry graduate credit for psychology majors. Prerequisites: Psych. 213 and 442. A 23 613 1 2001

620. Psychology of Consciousness. (3). Consciousness (and its varied states) as a psychological process, explored through theoretical, experimental and experiential points of view. Prerequisite: Psych. 111. A 23 620 0 2001

643. Operant Conditioning Laboratory. (3). 6L. Experimental laboratory stressing analysis of behavior by operant techniques. Prerequisites: Psych. 211 and 213. A 23 643 1 2002

656. Special Investigation. (2-3). Cross-listed as Geron. 656. Upon consultation with the instructor, advanced students with adequate preparation may undertake original research in psychological problems. Repeatable for a maximum of 6 hours. Prerequisites: 10 hours of psychology and departmental consent. A 23 656 4 2001

661. Developmental Psychology. (3). Cross-listed as Geron. 661. Selected topics in psychological development from the perspective of issues and crises across the entire life span from birth to death. The format of the course includes individual projects. Prerequisites: Psych. 361 and 365 or instructor's consent. A 23 661 0 2009

670. Primatology. (3). A survey of the primates (including humans) and their behavior. Topics covered include principles of evolution and taxonomy, the transition to homo sapiens, the evolution of behavior, the development of language, learning in the primates and the development of behavior. Prerequisite: Psych. 111. A 23 670 0 2001


Courses for Graduate Students Only


811. Seminar in Cognitive-Behavioral Assessment. (3). Rationale and methods of assessing interaction between the individual and the environment. Prerequisite: instructor's consent. A 23 811 9 2003

814. Interviewing and Assessment Practicum. (3). Development of interviewing skills, practical experience in the use of various data collection strategies, and experience in the analysis of these collected data. Prerequisite: instructor's consent. A 23 814 2 2003

815. Clinical Research and Practice. (3). Designed to give the student further experience in clinical skills and clinical research. Enrollment is required both semesters of the second year for students concentrating in the clinical area for a maximum of 6 hours. Prerequisite: instructor's consent. A 23 815 2 2003

817. Assessment of Personality and Human Interaction. (2). Rationale and methods of assessing personality as manifested in patterned regularities of interactive behavior with particular reference to behavior disorder and psychotherapeutic relationships. Prerequisites: Psych. 802 and instructor's consent. A 23 817 9 2003

818. Personality and Human Interaction Practicum. (2). 4L. Research and practicum experience in the measurement and control of human interaction patterns. Prerequisites: Psych. 817 or concurrent enrollment and instructor's consent. A 23 818 2 2003


When two course numbers are given at the beginning of a course description, the first number refers to the current course number, and the one in parentheses refers to the course's previous number.

830. Seminar in Community Psychology. (3). Comprehensive overview of theory, research and practice in the emerging field of community psychology from the perspective of general systems theory. Prerequisite: instructor’s consent. A 23 830 9 2005

831. Research in Community Psychology. (3). Special topics and group field research projects in community psychology. Prerequisite: instructor’s consent. A 23 831 2 2005

832. Practicum in Community Psychology. (3). Supervised practice in such areas as psychological consultation, program evaluation, program development, paraprofessional training and preventative programs in community agencies and organizations. Repeatable for a maximum of 6 credit hours. Prerequisites: Psych. 830, 831 and instructor’s consent. A 23 832 2 2005

833. Psychological Service Agencies. (3). An in-depth examination of psychological service agencies with regard to structure, functions, financing, goals, planning, development, evaluation and accountability. Prerequisite: instructor’s consent. A 23 833 9 2005

834. Psychological Counseling. (3). An in-depth examination and application of counseling and interviewing theories and techniques. Prerequisite: instructor’s consent. A 23 834 9 2005


844. Seminar in Personality and Psychosocial Disorders. (3). Relationship of normal behavior development and maladjustment and also a critical review of theory and research. Prerequisites: Psych. 544, or equivalent, and instructor’s consent. A 23 844 9 2005

851. Seminar in Physiological Psychology. (3). Intensive study of theory and research in physiological factors in behavior. Prerequisites: Psych. 550, or equivalent, and instructor’s consent. A 23 851 9 2001


870. Seminar in Current Developments. (3). See WS 870. Intensive study of current issues, techniques, research and application. Repeatable for different topics for a maximum of 6 hours. Prerequisite: instructor’s consent. A 23 870 9 2001

872. Seminar in Comparative Psychology. (3). Intensive study of psychological and ethological research and theories of behavior. The course is oriented around the evolution and ontogenetic development of behavior. An ethological project is required. Prerequisites: Psych. 570, or equivalent, and instructor’s consent. A 23 872 9 2001

873. Seminar in Motivation and Emotion. (3). Intensive study of theory and research in motivational and emotional processes. Prerequisites: Psych. 573, or equivalent, and instructor’s consent. A 23 873 9 2001

875-876. Thesis. (2-2). Required of all graduate majors. Prerequisite: adviser’s consent. A 23 875 4 2001; A 23 876 4 2001

885. Seminar in Perception. (3). Intensive study in theory and research in perceptual processes. Prerequisites: Psych. 585, or equivalent, and instructor’s consent. A 23 885 9 2001

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Religion

The Department of Religion offers students an opportunity to inform themselves about the major religious traditions of the world and to think critically and constructively about religion as a dimension of human experience and a mode of human expression. The curriculum includes courses on major religious traditions, significant issues in religion and methods of studying religion.

Students contemplating a major or minor in religion should discuss their academic program with a member of the department. Each student declaring a major or minor in religion is assigned an adviser from the department faculty with whom to plan a course of study.

Major. A major in religion requires a minimum of 30 hours chosen with the approval of the student’s adviser. At least 15 hours must be taken at the 300 level or above. A maximum of 6 hours outside the department, chosen with the adviser’s approval, may be included in the major. At least 6 hours are to be taken from each of the following lists:

1. Eastern Religions—Rel. 222, 250, 342
2. Western Religions—Rel. 220, 330, 360, 362, 442.

Under exceptional circumstances and with the approval of the student’s adviser, substitutions may be made in the above list.

Minor. A minor in religion requires a minimum of 15 hours, chosen with the approval of the student’s adviser. At least 3 hours are to be taken from each of the lists noted above in the requirements for a religion major.

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. This 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. The course is historical and analytic, not confessional. It culminates with a survey of the roles played by the Bible in contemporary American culture. A 15 120G 0 1510

130. 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. A 15 130 0 1510

131G. Traditional Religion and the Modern World. (3). A study, both 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. A 15 131G 0 1510

140. 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. A 15 140 0 1510

145. Religion and Contemporary Culture. (3). An examination of the relation between religion and culture. The course focuses on the experience of alienation in modern culture and the question of whether religion is part of the solution or part of the problem. A 15 145 0 1510

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210. Current Religious Issues. (3). A critical study of contemporary issues in the West, with some attention to non-Western religions. The relationship of religion to such topics as race, war, secularism, population explosion and politics is considered. A 15 210 0 1510


220. The World of Judaism. (3). The history and central teachings of traditional Judaism and its modern varieties (Reform, Orthodox, Conservative, Zionist, etc.). The course focuses on Jewish customs and practices as well as Jewish religious thought. A 15 220 0 1510

222. Introduction to Hinduism. (3). A course offering an opportunity to examine the world's oldest living religious tradition. The study involves ancient and contemporary texts and rituals. Students are encouraged to contrast and compare their own historical tradition with that of India, not only to increase their understanding of Hinduism, but also to deepen their own knowledge of themselves and their civilization. A 15 222 0 1510

224. Christianity. (3). An overview of Christianity from New Testament times to the present, stressing historical developments in religious life and theology. Catholic, Protestant and Orthodox Christianity are treated; contemporary trends and problems are explored. A 15 224 0 1510

250. Eastern Religions. (3). An introduction to the religions of India and China. Religions studied and contrasted include Hinduism, Buddhism, Jainism, Taoism and Confucianism. An attempt is made to understand the religious life and texts of these ancient and dynamic cultures from the vantage point of the believers themselves. A 15 250 0 1510

280. Special Studies. (3). A concentrated examination of a significant figure, event or issue in religion or the study thereof. Repeatable for credit. Prerequisite: departmental option. A 15 280 0 1510

299A. Sexuality and the Sacred. (3). Cross-listed as WS 299A. An exploration of the relationship between sexual attitudes and religious values. After examining the connections between religion and sexuality in both Eastern and Western contexts, the course will focus on religious arguments concerning such specific issues as abortion, homosexuality and extra-marital sex. A 15 299A 0 1510

Upper Division Courses


325. Western Religious Thought. (3). A study of some of the major theologians in the Western religious tradition, from pre-Augustian times to the 18th century, including such thinkers as Augustine, Aquinas, Anselm, Luther and Calvin. A 15 325 0 1510

327. Primitive Religion. (3). Cross-listed as Anthro. 327. A 15 327 0 1510

330. Modern Religious Thought. (3). Critical study of Western religious thought in the 19th and 20th centuries, including selections from such theologians as Schleiermacher, Kierkegaard, Barth, Buber, Rahner and Tillich. A 15 330 0 1510

335. Christianity and Ethics. (3). The problematic relation between Christianity and ethics as seen through the New Testament, writings of several Christian thinkers and actions of various Christian persons and movements. Case studies provide the basis for written work and discussion. A 15 335 0 1510

340. Islam. (3). The religion in its geographical, social, political and cultural context, both Arab and non-Arab. A 15 340 0 1510

342. Islam and Buddhism. (3). An examination of the religions of Islam and Buddhism. Each is viewed in its geographical, social, political and cultural context. The historic interaction of the two religions is studied in order to analyze their similarities and differences. Emphasis is placed on the ways the expansion of both religions influenced local cultures and world civilization. Some attention is given to the impact of Islam and Buddhism on contemporary American culture. A 15 342 0 1510
345. Religious Themes in Modern Literature. (3). Examination of contemporary approaches to the study of religion and literature and analysis of the modern religious sensibility as it emerges from such literature as Wiesel’s *Gates of the Forest*, MacLeish’s *JB*, and Hesse’s *Steppenwolf*. The course is organized around a particular theme: e.g., the experience of nothingness in modern literature, the literature of the Holocaust, etc. A 15 345 0 1510

346. Philosophy of Religion. (3). Cross-listed as Phi. 346. A 15 346 0 1510

360. Ancient Judaism. (3). The development of Judaism during the Persian, Hellenistic and Roman periods. The course begins with the close of the Hebrew Bible, examines the varieties of Judaism that then arose and ends with the consolidation of Rabbinic Judaism on the one hand and Christianity on the other. A 15 360 0 1510

362. Modern Judaism. (3). A survey of the varieties of Judaism that have arisen since the Enlightenment. The course examines the origins, beliefs and practices of modern Orthodox, Conservative, Reconstructionist and Reform Judaism. In what ways are these different forms of Judaism particularly “modern”? In what ways are they continuations of an older tradition? A 15 362 0 1510

363. Zionism and the Judaic Tradition. (3). An examination of recent tendencies to understand Jewish identity primarily in national terms. The focus is on the different relationships of these tendencies to elements in the classical Jewish tradition. Modern Zionism is the chief, though not the only, example studied. A 15 363 0 1510

375. Religion and Bioethics. (3). A study of the religious issues arising out of the impact of technology on the human life cycle. A variety of religious viewpoints, traditional and contemporary, is considered as each relates to such matters as birth control, abortion, genetics, organ transplantation and death. A 15 375 0 1510

410. Comparative Religion. (3). An observation and analysis of the patterns found in the characteristic religious phenomena (e.g., myths, symbols, rites, institutions), with a view to a systematic understanding of man’s religious life as it has expressed itself throughout history. A 15 410 0 1510

420. Marx, Nietzsche and Christianity. (3). An examination and critical evaluation of two of the seminal critiques of Christianity that have been produced in the modern world. A 15 420 0 1510

421. Sociology of Religion. (3). Cross-listed as Soc. 521. A 15 421 0 1510

430. Religion and the Future. (3). An examination of the ways world religions are responding to current technological, cultural and social trends and an indication of future issues that will call for a response. The relationship between religion and future developments in automation, population explosion, biological engineering and arms control receive special attention. A 15 430 0 1510

442. Greek and Roman Religion. (3). The transformations in the religious life of the Mediterranean world and the Near East between the conquests of Alexander the Great and the triumph of Christianity under Constantine. The course covers the traditional forms of Greek and Roman religion, the impact of Greek culture and religion on the East after Alexander, the mystery religions, the spread of oriental cults in the Roman Empire, Gnosticism, astrology and the development of Christianity within the Roman Empire. At its most inclusive level, the course deals with the particular religious synthesis lying at the basis of Western civilization: the fusion of Jewish, Greek and Roman patterns of thought in the Christian world of late antiquity. A 15 442 0 1510

445. Religion and Human Conflict. (3). A critical examination of the relationship between religion and human conflict as expressed in war, revolution, civil strife and interpersonal relationships. Special attention is given to the ways Western and
Eastern religions have justified, tried to limit or ameliorate human conflict. A 15 445 0 1510

460. A Study of Religious Experience. (3). An interdisciplinary study of forms of religious experience such as conversion, mysticism, prayer, worship and vision. Readings from such representative thinkers as James, Freud, Marx, Otto, Alport and Maslow are included. A 15 460 0 1510

465. Meditation and Stages of Spiritual Growth. (3). The course focuses on three interrelated topics: (1) biofeedback and meditation; (2) the study of spiritual disciplines, such as prayer, meditation, fasting and service in various religious traditions; (3) how these disciplines carry the individual through the stages of spiritual transformation. These stages are studied in the lives of saints, Christian mystics, Zen Buddhist meditators and in connection with maps of consciousness supplied by psychologists (e.g., Jung, Grof, Erikson). A 15 465 0 1510

470. The Problem of Salvation. (3). A comparative analysis of the various answers mankind has given to the problem of the nature of the human condition and of man's salvation from it, utilizing selections from both East and West and from both within and outside the specifically religious traditions (e.g., Patanjali, Lao Tzu, Plato, Augustine, Spinoza, Camus and Tillich). A 15 470 0 1510

476. The Reformation. (3). Cross-listed as Hist. 576. A 15 476 0 1510

480. Special Studies. (3). A concentrated study of a theologian, a theorist of religion or a religious issue announced by the instructor when the course is scheduled. Repeatable for credit. Prerequisite: instructor's consent. A 15 480 0 1510

490. Independent Work. (2-3). Designed for the student who is capable of doing advanced independent work in a specialized area of the study of religion that is not formally offered by the department. Repeatable for credit. Prerequisite: departmental consent. A 15 490 0 1510

Courses for Graduate/Undergraduate Credit

510. Apocalyptic: Ancient and Modern. (3). Jewish and Christian apocalyptic seen in relation to religious expression and political protest in the ancient world, studied in historical and phenomenological relationship to religion, literature and culture of the West up to and including modern times and compared with other religious traditions, including Buddhism and the religion of nonliterate peoples. A 15 510 0 1510

550. Women and Religion. (3). Cross-listed as WS 550. An examination of past and present images and roles of women in Western religious traditions. The course looks at women in the Bible and religious history, as well as contemporary criticisms of patriarchal religion and resources for change. A 15 550 0 1510

750. Workshop in Religion. (2-3). A 15 750 0 1510

790. Independent Study. (2-3). Designed for the student who is capable of doing graduate work in a specialized area of the study of religion that is not formally offered by the department. Repeatable for credit. A 15 790 0 1510

Romance Languages

FRENCH

Major. A major in French consists of a minimum of 30 semester hours beyond Fr. 112, or its equivalent, and must include the following courses: Fr. 220, 223, 224, 227, 526, and 530, or equivalents. In addition to the above courses 9 hours must be selected from the following: Fr. 630, 631, 632, 633, 634, plus 3 hours selected from the following courses: Fr. 515, 541, 623, or 635, or their equivalents.

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. Requirements for entering this program are:
1. Grade point average of 2.75 or higher in French
2. Special departmental approval based on demonstrated competencies in the use of both oral and written French (not based on course grades)

Minor. A minor in French consists of a minimum of 12 semester hours beyond Fr. 112 and must include Fr. 220, 223, 224 and one upper division French course.

Native Speakers. 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.

Noncredit Course

060. French for Graduate Reading Examination. (3). Open to upper division and graduate students only. This reading course is designed to prepare students to fulfill departmental requirements of a reading knowledge of French for the Master of Arts or Master of Science. No previous knowledge of French is required. The course will not count toward a degree. A 26 060 0 1102

Lower Division Courses

111-112. Elementary French. (5-5). Covers speaking, reading and writing, including grammar essentials. Daily classroom and laboratory work is required. A 26 111 0 1102; A 26 112 0 1102

150. Workshop in French. (2-4). Repeatable for credit. A 26 150 2 1102

210. Intermediate French. (5). French review, with emphasis on conversation, folklore and modern culture. Prerequisite: 2 units of high school French, or Fr. 112 or departmental consent. A 26 210 0 1102

220. Intermediate French Grammar and Composition. (3). Prerequisite: Fr. 112 or departmental consent. A 26 220 0 1102

223. Intermediate French Readings I. (3). Intensive reading of French literary works. This course may be used to meet the foreign literature requirement. Prerequisite: Fr. 112 or equivalent. A 26 223 0 1102

224. Intermediate Readings II. (3). Intensive reading in literary and nonliterary French with emphasis on culture and civilization. Prerequisite: Fr. 223 or equivalent. A 26 224 0 1102

227. French Conversation. (3). Assignments to increase oral fluency. Emphasis is on learning new vocabulary and idiomatic structures. Drills are in pronunciation in the laboratory. Prerequisite: Fr. 112 or equivalent. A 26 227 0 1102

Courses for Graduate/Undergraduate Credit

Upper division courses are given on a rotating basis. Fr. 530 is a prerequisite for all upper division literature and civilization courses, unless otherwise indicated.

515. Major Topics. (1-4). Special studies in (a) language, (b) literary reports, (c) commercial French, (d) the language laboratory, (e) music, (f) composition and (i) problems in teaching French. Repeatable for credit. Prerequisite: departmental consent. A 26 515 0 1102

525. Advanced Conversation. (3). A course designed to increase fluency in speaking French. Assignments include oral reports, dialogs and work in the lan-
guage laboratory. Prerequisite: Fr. 225 or departmental consent.

526. Advanced Composition and Grammar. (3). Emphasis on theme writing, original compositions and detailed study of modern French grammar. Prerequisite: Fr. 220 or departmental consent.

530. Introduction to French Literature. (3). Survey of French literary history from the Middle Ages to the present. Prerequisite: Fr. 224.

540. French Literature in English Translation. (2-4). Selected works in (a) French prose and poetry, and (b) French theater. This course does not count toward a French major or a minor.

541. Black French Literature 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. This course may count toward a French major or minor if readings and papers are done in French.

623. Seminar in French. (1-5). Special studies in (a) French language, prerequisite: Fr. 226; (b) French literature, prerequisite: Fr. 530; (c) methods of teaching French in the elementary and secondary schools, prerequisite: Fr. 525; (d) French civilization, prerequisite: Fr. 530. Repeatable for credit.

630. Medieval and Renaissance French Literature. (3). Prerequisite: Fr. 530.

631. 17th Century French Literature. (3). Prerequisite: Fr. 530.

632. 18th Century French Literature. (3). Prerequisite: Fr. 530.

633. 19th Century French Literature. (3). Prerequisite: Fr. 530.

634. Contemporary French Literature. (3). Prerequisite: Fr. 530.

635. Introduction to Romance Language Linguistics. Cross-listed as Span. 635 and Ling. 635. An introduction to the historical phonology and morphology of the romance languages with particular emphasis on French and Spanish. Prerequisite: departmental consent.

636. Medieval and Renaissance French Literature. (3). Prerequisite: Fr. 530.

637. 17th Century French Literature. (3). Prerequisite: Fr. 530.

638. 18th Century French Literature. (3). Prerequisite: Fr. 530.

639. 19th Century French Literature. (3). Prerequisite: Fr. 530.

640. Contemporary French Literature. (3). Prerequisite: Fr. 530.

641. Black French Literature 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. This course may count toward a French major or minor if readings and papers are done in French.

670. Workshop in French. (2-4). Repeatable for credit.

GREEK

There is no major or minor in Greek.

Lower Division Courses

111-112. Elementary Greek. (5-5). Basic grammar with emphasis on early reading.

223. Intermediate Greek. (3). Plato and Herodotus. Prerequisite: Greek 111-112.

224. Intermediate Greek. (3). Homer’s Iliad. Prerequisite: Greek 223.

ITALIAN

There is no major in Italian. A minor in Italian consists of 11 hours beyond the 111-112 level and must include Ital. 531.

Lower Division Courses

220. Intermediate Italian Grammar and Composition. (3). Prerequisite: Ital. 112 or equivalent. A 26 220 0 1104

223-224. Selected Italian Readings. (3-3). Intensive reading of Italian literary works. Discussions in Italian, as well as oral and written summaries, are featured. Prerequisite: Ital. 112 or 2 units of high school Italian for Ital. 223; Ital. 223 or 3 high school units for Ital. 224. A 26 223 0 1104; A 26 224 0 1104.

225. Intermediate Conversation. (2). Prerequisite: Ital. 112 or departmental consent. A 26 225 0 1104

Courses for Graduate/Undergraduate Credit

531. Introduction to Italian Literature. (3). Prerequisite: Ital. 224 or departmental consent. A 26 531 0 1104

540. Medieval and Renaissance Italian Literature in Translation. (3). Representative selections in English translation from Italian medieval and Renaissance literature. The works of Dante and other writers in their medieval context: Boccaccio and the Waning of the Middle Ages; Petrarch and the formation of a new, humanistic civilization—reflections and divergences in the 14th, 15th and 16th centuries are all included. A knowledge of Italian is not a prerequisite, and the course does not count toward an Italian minor. A 26 540 0 0312

LATIN

Major A. A major in Latin consists of a minimum of 24 hours beyond Latin 112, or its equivalent, and must include at least 9 hours of upper division courses. Courses in Greek, ancient history, Greek philosophy or ancient art are strongly recommended for all majors.

Major B. The teaching major in Latin in either Fairmount College of Liberal Arts and Sciences or in the College of Education consists of at least 50 semester hours, including at least 24 hours beyond Latin 111-112 as listed under Major A, and:

1. At least 21 hours in a second language or
2. At least 15 hours from one or more of the following related fields: English, history, linguistics, philosophy or political science (these must be chosen in consultation with the teacher education adviser) or
3. A totally separate second major as prescribed by the Catalog.

Students who wish to enter the student teaching program should consult with the department’s professor in charge of teacher education early in their college careers. Requirements for entering the student teaching semester are:

1. Grade point average of 2.75 or higher in Latin
2. Special departmental approval based on demonstrated competencies in the use of Latin (not based on course grades)
Minor. A minor in Latin consists of a minimum of 11 hours beyond the 112 level and must include at least one 500-level course.

Lower Division Courses

111-112. Elementary Latin. (5-5). Basic grammar with emphasis on early reading. A 26 111 O 1109; A 26 112 O 1109

150. Workshop in Latin. (2-4). Repeatable for credit. A 26 150 2 1109

223. Intermediate Latin. (3). General review of grammar with selected readings of prose and poetry. Prerequisite: Latin 112, two years of high school Latin or departmental consent. A 26 223 0 1109

224. Intermediate Latin. (3). Selected readings of prose and poetry. May be repeated for credit when the readings vary. Prerequisite: Latin 223 or departmental consent. A 26 224 0 1109

Courses for Graduate/Undergraduate Credit

Latin 224 or departmental consent is the prerequisite for all upper division courses.

542. Vergil's Aeneid. (3). Selected books of the Aeneid in the original and the rest in translation. Study of imagery, symbolism, structure, meter and diction. Consideration is given to the place of the Aeneid in the Augustan Rome and in the epic tradition. A 26 542 O 1109

543. Roman Drama. (3). A study of Roman comedy and tragedy, their Greek background and their influence on European literature. Included are selected plays of Plautus, Terence and Seneca, some in the original and some in translation. A 26 543 0 1109

544. Love in Ancient Rome. (3). The relationship of the sexes and the use of myth in the poetry of Ovid, Propertius and Tibullus. A 26 544 0 1109

545. The Roman Novel. (3). Reading of the Satyricon of Petronius and the Golden Ass of Apuleius. The portions that are not read in Latin are read in English. Consideration is given to the development of the novel from its Greek beginnings up to the time of Apuleius and beyond. A 26 545 0 1109

546. Advanced Latin. (3). Directed reading of Latin. Reading may be combined with Latin prose composition at the option of the students. Repeatable for credit when content varies. A 26 546 0 1109

651. Roman Historians. (3). A study of the development of Roman historiography. Readings from Sallust, Caesar, Livy and Tacitus. A 26 651 O 1109

652. Cicero. (3). The orations, letters and essays of Cicero. The study concentrates on Cicero as the master of Latin prose and as one of the most important political figures of the fall of the Roman Republic. A 26 652 O 1109

653. Lucretius and Epicureanism. (3). Reading of Lucretius' De Rerum Natura and study of Epicureanism, the atomic theory and Democritean materialism. Consideration is given to the place of Lucretius in Latin poetry. A 26 653 0 1109

750. Workshop in Latin. (2-4). Repeatable for credit. A 26 750 2 1109
PORTUGUESE

No major or minor is offered in Portuguese.

Noncredit Course

060. Reading Portuguese. (2). Open to Latin American studies majors and to upper division or graduate students who need to fulfill departmental requirements of a reading knowledge of a foreign language for the Master of Arts or Master of Science. No previous knowledge of Portuguese required. Will not count toward a degree. A 26 060 0 1120

Lower Division Courses

111-112. Elementary Portuguese. (5-5). Course emphasis includes understanding, speaking, reading and writing Portuguese. A 26 111 0 1120; A 26 112 0 1120

210. Intermediate Portuguese. (5). Portuguese review, with emphasis on conversation, grammar and cultural readings. Prerequisite: Port. 112 or equivalent, or consent. A 26 210 0 1120

SPANISH

Major A. A major in Spanish consists of a minimum of 24 hours beyond Span. 112, or its equivalent, and must include Span. 225, 324, 526 and at least 9 hours of upper division Hispanic literature or at least 6 hours of upper division Hispanic literature and 3 hours of Hispanic civilization. Courses in Spanish or Spanish-American history, economics or art are strongly recommended for all majors. With departmental approval, a maximum of 4 hours in courses in related fields taken in the Wichita State University Summer Program in Mexico may count toward the Spanish major.

Native speakers of Spanish normally are not permitted to take courses at the 100- or 200-level and must take a minimum of 12 hours of Hispanic literature in order to complete a major in Spanish. Students who have completed more than 2 units of high school Spanish and students who have spoken Spanish natively should consult with a counselor in the Spanish department before enrolling in Spanish courses.

Major B. The teaching major in Spanish in either Fairmount College of Liberal Arts and Sciences or in the College of Education consists of at least 50 semester hours, including at least 24 hours beyond Span. 112, or its equivalent, and must include Span. 224, 525 or 526, 623a or 635, 626 or 627, and at least 6 hours of upper division literature. In addition, students must have:

1. At least 21 hours in a second language or
2. At least 15 hours from one or more of the following related fields—English, history, linguistics, philosophy, political science (these courses should be chosen in consultation with the teacher education adviser) or
3. A totally separate second major as prescribed by the Catalog.

Students who wish to enter the student teaching program should consult with the department’s professor in charge of teacher education early in their college careers. Requirements for entering the student teaching semester are:
1. Grade point average of 2.75 or higher in Spanish
2. Special departmental approval based on demonstrated competencies in the use of both oral and written Spanish (not based on course grades)
3. Basic courses in education: IS 232, 234 and 333. Strongly recommended also is Span. 505 or 623a. Majors interested in teaching Spanish in elementary schools should consult the department’s teacher education adviser.

Major C. This major emphasizes practical and technical vocabulary for the career-oriented student. Courses designed for this major are Span. 505, 515, 550, 555, 622, 626 and 627.

Minor. A minor in Spanish consists of a minimum of 11 hours beyond the Span. 111-112 level and must include Span. 220, 223, 225 and one upper division course.

Native speakers normally are not permitted to take courses at the 100- or 200-level and must take a minimum of 6 hours of Hispanic literature in order to complete a Spanish minor.

Lower Division Courses

111-112. Elementary Spanish. (5-5). Emphasis on the four fundamental skills in language learning: understanding, speaking, reading and writing. A 26 111 0 1105; A 26 112 0 1105
150. Workshop in Spanish. (2-4). Repeatable for credit. A 26 150 2 1105
210. Intermediate Spanish. (5). Spanish review, with emphasis on conversation and cultural readings. Not open to students with previous credit in Span. 221 (dropped). Designed primarily for students wishing to fulfill the liberal arts language requirement. It is recommended that prospective majors and minors go directly into Span. 223, 225 or 220. Prerequisite: Span. 112, or 2 units of high school Spanish, or departmental consent. A 26 210 0 1105
220. Intermediate Spanish Grammar and Composition. (3). Prerequisite: Span. 112 or 2 units of high school Spanish. A 26 220 0 1105
223-224. Selected Spanish Reading I-II. (3-3). Intensive reading of Latin American and Spanish literary works. Also includes outside readings and reports. Prerequisite: Span. 112 or 2 high school units of Spanish for 223; Span. 223 or 3 high school units of Spanish for 224. A 26 223 0 1105; A 26 224 0 1105
225. Spanish Conversation I. (2). Prerequisite: Span. 112 or 2 units of high school Spanish. Should be taken with Span. 220. A 26 225 0 1105

Upper Division Courses

324. Introduction to Literary Criticism. (3). An introduction to the basic elements of literary criticism: form, theme, point of view, characters, plot, language, etc. Prerequisite: Span. 224 or departmental consent. A 26 324 0 1105
325. Spanish Conversation II. (2). Continuation of Spanish Conversation I with continued emphasis on fluency in Spanish and on vocabulary building. Prerequisite: Span. 225 or departmental consent. A 26 325 0 1105

Courses for Graduate/Undergraduate Credit

Span. 324 is a prerequisite for all upper division literature courses unless otherwise specified.

505. Spanish Phonetics. (2). Cross-listed as Ling. 505. Prerequisite: any 200-level course or departmental consent. A 26 505 0 1105
515. Major Topics. (1-4). Special studies in (a) language, (b) literary reports, (c) commercial Spanish, (d) the language laboratory, (e) music, (f) composition and (f)
problems in teaching Spanish. Repeatable for credit. Prerequisite: departmental consent. A 26 515 0 1105

525. Spanish Conversation III. (2). Prerequisite: Span. 325 or departmental consent. A 26 525 0 1105

526. Advanced Grammar and Composition. (3). Prerequisite: Span. 220 or departmental consent. A 26 526 0 1105

531. Survey of Spanish Literature. (3). Main currents of Spanish literature from 1700 to the present. A 26 531 0 1105

532. Survey of Spanish Literature. (3). Spanish literature from the beginning to 1700. Prerequisite: Span. 531 or departmental consent. A 26 532 0 1105

534. Contemporary Spanish Theater. (3). A 26 534 0 1105

536. Contemporary Spanish Novel. (3). A 26 536 0 1105

543. Contemporary Chicano Literature. (3). A study of modern and contemporary Chicano writers in the United States, including such writers as Allurista, Corky González and Octavio Romano. Extensive use of Chicano magazines and newspapers is made. This course does not count toward a Spanish major or minor. A 26 543 0 2213

550. Career Communications in Spanish. (3). A continuation of Span. 325 and 525 with emphasis upon technical vocabulary needed in selected professional fields. Prerequisites: Span. 325 and 525 or departmental consent. A 26 550 0 1105

555. Readings in Hispanic Periodicals. (3). A continuation of Span. 224 with continued emphasis upon the other three skills: writing, speaking and listening comprehension. Prerequisites: Span. 224 or departmental consent. A 26 555 0 1105

621. Survey of Latin American Literature. (3). An introduction to Latin American literature through study of the outstanding authors from pre-Colombian to the present time. Prerequisite: Span. 324 or departmental consent. A 26 621 0 1105

622. Special Studies. (1-4). Topic for study chosen with aid of instructor. Repeatable for credit. Prerequisite: Instructor's consent. A 26 622 0 1105

623. Seminar in Spanish. (1-5). Special studies in (a) language, (b) Spanish and Spanish-American literature, (c) Spanish and Spanish-American culture and civilization, and (d) methods of teaching Spanish in the elementary and secondary schools. Repeatable for credit. Prerequisite: departmental consent. A 26 623 9 1105

625. Contemporary Spanish-American Novel. (3). Prerequisite: any 500-level Hispanic literature course. A 26 625 0 1105

626. Spanish Civilization. (3). Intensive study of Spanish culture, including historical and geographical factors in its development, and its contributions to world civilization. Portuguese civilization also is considered. A 26 626 0 1105

627. Ibero-American Civilization. (3). Intensive study of Ibero-American culture, including the historical and geographical factors in its development and its contributions to world civilization. A 26 627 0 1105

635. Introduction to Romance Linguistics. (3). Cross-listed as Fr. 635 and Ling. 635. An introduction primarily to the historical phonology and morphology of the Romance languages, with particular emphasis on French and Spanish. Prerequisite: departmental consent. A 26 635 0 1105

750. Workshop in Spanish. (2-4). Repeatable for credit. A 26 750 2 1105

**Courses for Graduate Students Only**

801. Spanish Linguistics. (3). Historical and structural study of the Spanish language. A 26 801 0 1105

805. Directed Readings. (1-4). Readings vary according to the student's preparation. Preparation of reports, literary critiques and special projects in linguistics are included. A 26 805 3 1105

826. Grammar and Stylistics. (3). Intensive study of advanced grammar and stylistic usage. A 26 826 0 1105

831. Seminar in Spanish Literature. (3). (a) Middle Ages, (b) Renaissance, (c) Golden Age theater, (d) Cervantes, (e) modern novel, (f) Generation of '98, (g) contemporary novel, (h) 20th century theater, (k) Spanish romanticism, (l) 20th century poetry and (m) literary criticism. A 26 831 9 1105

832. Seminar in Spanish-American Literature. (3). (a) colonial period, (b) contemporary novel, (c) short story, (d) poetry, (e) modernism, (f) essay and (i) theater. A 26 832 9 1105
Sociology/Social Work

Major. A major consists of at least 30 hours, including Soc. 211, 310 and 645 or 646. Certain courses in related departments that meet the particular needs of the students and are approved by their advisers may be counted toward a sociology major. No more than 6 hours of such courses may be included. With the exception of SW 200 and 500, social work courses do not count toward the major.

Minor. At least 15 hours of sociology, including Soc. 211, and a minimum of 6 hours of upper division courses must be taken. No social work courses may be counted toward a minor.

SOCIOLOGY

Lower Division Courses

200G. 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 everyday. A wide range of topics will be illuminated: family relations, religion, work relations, recreational and leisure activities, educational experiences, child and adult socialization, interpersonal relations in public and private settings, urban/rural living, and fads and fashions. The course is flexible to allow students to explore, in depth, their own unique life experiences within a sociological framework. A 25 200G 0 2208

211. Introduction to Sociology. (3). Introduction to basic concepts, propositions and theoretical approaches of sociology, including elementary methods of studying social phenomena. This course serves as the basic course for students who intend to take additional courses in sociology. A 25 211 0 2208

212. Introduction to Social Research. (3). Cross-listed as Geron. 212. A survey of the many research techniques found in sociology and related fields. This course stresses conceptual understanding of all phases of the research process. Prerequisite: Soc. 211. A 25 212 0 2208

220. Contemporary Social Problems. (3). An analysis of contemporary American social problems, with an emphasis on urban social problems. A 25 220 0 2208

226. Race Relations. (3). The nature of race, ethnic groups confused with races, interrelations of ethnic groups in the United States and other countries, processes of change and action programs. Prerequisite: Soc. 211. A 25 226 0 2208

Upper Division Courses

310. Sociological Statistics. (4). Generally offered only in the spring semester. Statistical application to sociological problems, including parametric measures and non-parametric measures (such as binomial expansion and chi-square). Prerequisites: Soc. 211 and Math. 331 or 112. A 25 310 0 2208

399. Experimental and Other Special Courses. (3). A course used by faculty to test subject matter prior to permanent placement in the Catalog or a course specially designed for some target group in the community. Prerequisite: Soc. 211. A 25 399 0 2208

Courses for Graduate/Undergraduate Credit

502. Older People and Organizations. (3). Cross-listed as Geron. 502. This course examines the agencies and organizations that deal with or are comprised of the elderly. The relationship between various social networks and the participation of the elderly as they develop new roles is examined. Prerequisite: Soc. 211 or instructor’s consent. A 25 502 0 2208

505. Sociology of Leisure. (3). An examination of the social organization of non-work situations. The course specifically deals with leisure, sport and alternatives to the traditional work time activities of individuals in the present and social trends
forecast for the future. Prerequisite: Soc. 211. A 25 505 0 2208

513. Sociology of Aging. (3). Cross-listed as Geron. 513. Analysis of the social dimensions of old age, including changing demographic structure and role changes and their impact on society. Prerequisite: Soc. 211. A 25 513 0 2208

514. Comparative Family Systems. (3). Ethnographic and historical studies of family systems, range of variation and vestiges of older systems in contemporary United States. Prerequisite: Soc. 211.* A 25 514 0 2208

515. Sociology of the Family. (3). Analysis of American family behavior, including the selection of marriage partners, the husband-wife and parent-child relationships, and the relation of these patterns of behavior to other aspects of American society. Prerequisite: Soc. 211. A 25 515 0 2208

516. Sociology of Sex Roles. (3). Cross-listed as WS 516. A course analyzing the institutional sources of man's and woman's roles, the source of changes in these roles, the consequent ambiguities and conflicts. Prerequisite: Soc. 211. A 25 516 0 2208

518. Environmental Sociology. (3). An analysis of human social behavior and the inanimate physical settings in which that behavior occurs. Prerequisite: Soc. 211. A 25 518 0 2208

520. Conformity and Resistance. (3). Analysis of the development of the normative system, the concept of social control and the breakdown of social order in collective and deviant behavior. Prerequisite: Soc. 211. A 25 520 0 2208

521. Sociology of Religion. (3). Cross-listed as Rel. 421. The function and role of religious belief and religious organization in human societies, with special reference to American society. The relation of religious belief and organization to other aspects of the social structure and to social change is discussed. Prerequisite: Soc. 211. A 25 521 0 2208

522. Deviant Behavior. (3). The structure, dynamics and etiology of those behavior systems that are integrated around systematic violations of the control norms. Competing theories are presented and evaluated within the context of the assumption that man is a social product. Prerequisite: Soc. 211. A 25 522 0 2208

523. Sociology of Law. (3). The study of law and legal institutions within their social context. Prerequisite: Soc. 211. A 25 523 0 2208

525. Formal Organizations. (3). Characteristics of complex organizations and factors relating to their effectiveness with emphasis on research methods and findings. Prerequisite: Soc. 211. A 25 525 0 2208

526. Political Sociology. (3). Social basis and consequences of political behavior. Also included are the study of power and authority, problems in the development and maintenance of viable democratic political structures, and bureaucratic organization and power. Prerequisite: Soc. 211. A 25 526 0 2208

527. Violence and Social Change. (3). The analysis of the causal processes and functions of extreme and violent political behavior, i.e., revolutionary, insurrectionary and protest movements. The course includes an analysis of consequences for social change. Prerequisite: Soc. 211. A 25 527 0 2208

530. Social Inequity. (3). An analysis of status, class and caste in various societies, especially American society. The relationship of social inequality to various social institutions is also included. Prerequisite: Soc. 211. A 25 530 0 2208

531. Population. (3). The size, composition, distribution and recent trends in the population of the world and the United States and the relation of population to world problems. Prerequisite: Soc. 211. A 25 531 0 2208

533. Sociology of the Community. (3). An exploration of a basic unit of social organization, the community. Emphasis is placed on organizational and interpersonal relationships within the community and changes in those relationships, as well as the community's place within society. Prerequisite: Soc. 211. A 25 533 0 2208

534. Urban Sociology. (3). Urban population, urban organization, urban institutions and programs of city planning. Prerequisite: Soc. 211. A 25 534 0 2208

535. Sociology of Work and Occupations. (3). The work group as a social group, social organization of the work plant and social factors affecting the worker. Prerequisite: Soc. 211. A 25 535 0 2208

*Prerequisite may be waived with departmental consent.
537. The Social Consequences of Disability. (3). Cross-listed as Geron. 537. An eclectic survey of the social aspects of disability, showing the impact of social values, institutions and policies upon adults with disabilities. Appropriate for both students of sociology and the service professions. A 25 537 0 2208

538. Medical Sociology. (3). Cross-listed as Geron. 538. An analysis of social and cultural factors related to physical and mental illness. Also included are the dynamics of communication and role relationships among patients and medical personnel and social research and theory relevant to the health professions. Prerequisite: Soc. 211. A 25 538 0 2208

539. Juvenile Delinquency. (3). The factors related to juvenile delinquency and the measures of treatment and prevention. Prerequisite: Soc. 211. A 25 539 0 2208

540. Criminology. (3). The extent and nature of criminal behavior and societal reactions to it. Prerequisite: Soc. 211. A 25 540 0 2208

541. Contemporary Corrections. (3). Historical and contemporary programs for the treatment of offenders, viewed as societal reactions to criminal behavior. Prerequisite: Soc. 539 or 540. A 25 541 0 2208

550. Social Interaction. (3). Group effects on the individual, symbolic interaction theory in sociology with special emphasis on research and findings. Prerequisite: Soc. 211. A 25 550 0 2208

598. Internship. (1-6). Cross-listed as Geron. 598. A course used to supervise persons involved in internships or placements in the community where credit can be given. Prerequisite: departmental consent. A 25 598 2 2208

600. Selected Topics in Sociology. (3). Study in a specialized area of sociology, with emphasis on student research projects. Areas covered include deviant behavior, political sociology, the family and others. Repeatable for a maximum of 6 hours credit. Prerequisites: Soc. 211, instructor's consent and substantive area course. A 25 600 0 2208

610. Introduction to Scientific Method in Sociology. (3). The development of the problem, techniques of data collection, analysis and presentation. Laboratory work in the form of a completed project is required. Prerequisite: Soc. 310. A 25 610 0 2208

634. Sociology of Urban Planning. (3). An exploration of the social structural and cultural context of urban planning. Particularly emphasized are the traditional urban planning perspective, applications of that perspective and modifications recommended by sociologists. Prerequisite: Soc. 211 or instructor's consent. A 25 634 0 2208

645. History of Sociological Theory. (3). Analysis of emergence of sociological theory. Prerequisite: 8 hours of sociology. A 25 645 0 2208

646. Principles and Concepts of Sociology. (3). Critical evaluation of major principles and concepts, their derivation and relationship to systematic theory. Prerequisite: 8 hours of sociology. A 25 646 0 2208

651. Directed Research. (3). Cross-listed as Geron. 651. Designed to give the student further research skills in an area of special interest. All students are under the direction of a member of the graduate faculty who will guide them in developing research skills. Prerequisites: Soc. 610 and instructor's consent. A 25 651 4 2208

670. Independent Reading. (2-3). Designed for the advanced student capable of doing independent work in an area of special interest. Prerequisites: 15 hours of sociology and instructor's consent. A 25 670 3 2208

687. Introduction to Urban Affairs. (3). Cross-listed as Pol. Sci. 687 and Econ. 687. An introduction to the study of the metropolis as a social, political and economic system. Prerequisites: Econ. 201 and Soc. 211 or a course in political science. A 25 687 0 2208

750. Sociology Workshop. (1-3). A course designed to provide specialized instruction, using a variable format, in sociologically relevant subject. A 25 750 2 2208

Courses for Graduate Students Only

800. Research Methods in Sociology. (3). The application of research methods to sociology data. Included are research design, collection of data, development of questionnaires, schedules and scales, interviewing methods, analysis of data and summary. Prerequisites: Soc. 610 and departmental consent. A 25 800 9 2208

* Prerequisite may be waived with departmental consent.
805. Seminar in Qualitative Methodology. (3). An in-depth examination and practical application of various field research methods in sociology. Included are participant observation, in-depth interviewing, disguised observation and unobtrusive measures. Prerequisites: Soc. 610, 800 and departmental consent. A 25 805 9 2208

815. Seminar on the Family. (3). Review of recent research on the family and the theoretical implication thereof. Prerequisites: Soc. 515, 610 and departmental consent. A 25 815 9 2208

820. Seminar in Social Movements. (3). Analysis of the elements in social movements as factors in social and cultural change. Prerequisites: Soc. 610 and departmental consent. A 25 820 9 2208

822. Seminar in Deviant Behavior. (3). In-depth examination of recent theory, methods and research in the area of deviance. Implications of future theory development are included as part of the course. A 25 822 9 2208

825. Seminar in Organizational Analysis. (3). Exploration of selected problems in organizational theory based on major theoretical and empirical approaches, both classical and contemporary. Prerequisites: Soc. 525 and 610, or departmental consent. A 25 825 9 2208

830. Seminar in Stratification and Power Structure. (3). Analysis of the forms and dynamics of social inequality as a sociopolitical phenomenon. Class, status and power segments of contemporary urban society are examined, with reference to their spheres of influence and structural persistence and/or change. Prerequisites: Soc. 610, 530 and 526. A 25 830 9 2208

834. Seminar in Urban Sociology. (3). Independent research projects in urban sociology. Prerequisite: departmental consent. A 25 834 9 2208

838. Seminar in Juvenile Delinquency. (3). A study of juvenile delinquency from a number of theoretical frameworks, accentuating the contemporary context of the subject matter. The course covers topics of academic and practical interest related to delinquency, i.e., causes of delinquency, recent research, delinquency vis-a-vis this justice system, juvenile law and juvenile corrections. Special interest is given to the changing face of delinquency in America today. Student research, through utilization of community resources, is encouraged. Prerequisites: Soc. 610 and 539. A 25 839 9 2208

841. Advanced Seminar on Theories of Correctional Treatment. (3). Evaluation of the range of contemporary theories of individual and group techniques of correctional treatments, with special emphasis upon the literature related to process research and outcome research. Prerequisites: Soc. 541 and 610. A 25 841 9 2208

845. Seminar in Sociological Theory. (3). A course emphasizing continuities between European and American social theory. The perspective is both historical and analytical, spanning the 18th, 19th and 20th centuries, and concluding with the works of representative contemporary theorists. Prerequisites: Soc. 610 and 645 or 646. A 25 845 9 2208

847. Seminar in Recent Developments in Sociology. (3). Major issues, new theories, new techniques of research, new areas of research and new applications. Repeatable for credit but not to exceed 6 hours. Prerequisites: 15 hours of sociology, including Soc. 610 and departmental consent. A 25 847 9 2208

851. Directed Research. (3). Designed for the advanced student who wants to achieve research competence in a specific area. Each student is directed by a member of the graduate faculty in the development of a project in research not leading to thesis research. Prerequisites: Soc. 610, 800 and instructor's consent. A 25 851 4 2208

870. Independent Reading. (2-3). Advanced systematic reading in a topical area under the tutorship of a member of the graduate faculty. Repeatable for credit not to exceed 6 hours. Prerequisite: departmental consent. A 25 870 3 2208

875-876. Thesis. (3-3). A 25 875 4 2208; A 25 876 4 2208
SOCIAL WORK

Major. A major in social work requires at least 42 hours (33 hours in social work courses and 9 hours in related departments) as follows: SW 200, 500, 501, 550, 560, 601, 602, 603, 604 and 605. This required curriculum includes 9 hours in field instruction (practicum) courses: SW 602 and 605. Requirements in related departments include 3 hours in psychology (either Psych. 375 or 544) and 6 hours in sociology (Soc. 212 and either Soc. 515 or Soc. 522).

Minor. A minor in social work requires at least 19 hours in social work courses as follows: SW 200, 500, 501, 550, 601 and 602. This required curriculum includes 4 hours in the field instruction (practicum) course SW 602.

Lower Division Courses

100. Explorations in the Helping Professions. (3). An introduction to the helping professions as they relate to the whole person. This multidisciplinary course emphasizes the common helping processes of each profession, how they developed and how they differentially relate to human problems. A 25 100 0 2104

150. Aspects of Social Work. (Workshop). (2-5). Aspects of social work practice relating primarily to paraprofessional work with practitioners regarding basic human needs and the fundamentals of helping. May be offered together with SW 750. A 25 150 2 2104

200. Explorations in Social Welfare. (3). Cross-listed as Geron. 200. Introduction to the social welfare system and to the social work profession with special emphasis on the helping process and selected social problem areas. Fifty hours of community service in selected social welfare agencies is required. Prerequisites: Soc. 211 and Psych. 111. A 25 200 0 2208

340. Human Sexuality. (3). Cross-listed as WS 340. Provides a forum for information and discussion on topics relating to physical, psycho-social and cultural components of human sexuality. Selected topics include female and male sexual attributes and roles, sexual problems, alternate life styles, birth control, values and sexuality, and cultural components of sexuality. A 24 340 0 0506

Courses for Graduate/Undergraduate Credit

500. Social Welfare Policy and Services I. (3). Descriptive approach to the social welfare system, emphasizing its structural and value base. The course focuses on the service component with special attention to the local community service-delivery system. Prerequisites: SW 200 and Soc. 212. A 25 500 0 2104

501. Social Work Practice I. (3). Focus on social work helping methods including: historical development of the social work profession, identification of basic social work theory and introduction to social work practice methodology. In addition to the didactic component, a 4-hour practicum is required in which practice skills are emphasized. The course includes a research concentration. Prerequisites: SW 200 and Soc. 212. A 25 501 0 2104

550. Social Welfare Policy and Services II. (3). Analytical approach to social welfare problems, policies, programs and issues, including an analysis of the influence of values on the formation of social welfare policy. In-depth examination of selected issues in public and voluntary areas and alternative methods of meeting needs are included. Prerequisite: SW 500. A 25 550 0 2104

551. Independent Studies. (2-3). Individual projects designed for social work students who are capable of doing independent work in areas of special interest. Repeatable for credit not to exceed 6 hours. Prerequisite: instructor’s consent. A 25 551 3 2104

560. Personal Human Interaction Within Society. (3). This course provides students with a beginning theoretical framework within which the integration of prior knowledge can be made regarding physical, mental and social development of the
human being, perspectives on American culture and subcultural variations and their effect on human adaptability in the social environment, and the relationship of those entities to beginning professional social work practice. Prerequisites: SW 200 and Soc. 515, or Soc. 522 and Psych. 375 or 544. A 25 560 0 2104

570. Internships in Social Work. (3-6). Cross-listed as Ger. 570. To provide 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. It is also designed to meet experiential learning needs of special designated students for whom academic credit is appropriate. Repeatable for credit not to exceed a total of 6 hours. Prerequisite: instructor’s consent. A 25 570 2 2104

601. Social Work Practice II. (3). Advanced practice theory, with special emphasis on becoming both knowledgeable and skillful in applying theory to practice. The focus of this class will be on developing a clear understanding of concepts, principles, techniques and processes of social work methods as they relate to individuals, families and groups and to the larger community. This course is to be taken concurrently with SW 602 except by departmental consent. Prerequisites: SW 501 and departmental consent. A 25 601 0 2104

602. Practicum I. (4). Placement in community social welfare agencies for supervised periods of observation and direct service assignments, with special emphasis on performance of basic practice skills and understanding of the social welfare agency and its role in the community service network. This course is to be taken concurrently with SW 601 except by departmental consent. Prerequisites: SW 501 and departmental consent. A 25 602 2 2104

603. Topics in Social Work. (3). Selected topics in practice, research, administration, social policy and human behavior in the social environment. Prerequisites: SW 200 and instructor’s consent. A 25 603 0 2104

604. Seminar on Practice Issues. (3). A critical look at practice and professional issues, including social work research. The course analyzes current social work practice, as well as its future directions. SW 605 is to be taken concurrently except by departmental consent. Prerequisite: SW 601. A 25 604 0 2104

605. Practicum II. (5). Placement in community social welfare agencies for supervised direct service assignments, with emphasis on formulation of appropriate goals. The selection of various social work roles and in-depth development of techniques and skills common to practice in the social welfare field are included. SW 604 is to be taken concurrently except by departmental consent. Prerequisite: SW 602. A 25 605 2 2104

750. Social Work Workshops. (2-5). Specialized instruction using a variable format in a social welfare relevant subject. This course may be offered together with SW 150. Prerequisite: instructor’s consent. A 25 750 2 2104

Spanish (See Romance Languages)

Speech Communication

A major in the Department of Speech Communication requires a minimum of 30 hours with a specialization in one of the following areas:

1. Rhetoric and Communication—Speech 111 and 112, 211, 213, 221 or 222, 228 and at least 19 hours of electives chosen with the area adviser’s consent from rhetoric and communication courses. Majors in rhetoric and communication are encouraged to participate in forensic activities.

2. Theater—Speech 221, 243, 244, 253, 259, 623, 624, plus at least 9 hours of electives to be chosen with the area adviser’s consent from other theater courses. All theater majors are expected to participate in some area in the production of the University Theatre plays after consulting with the staff.
3. Radio-Television-Film—Speech 114, 215, 221 or 222, 224, 332, 504, 607 and at least 10 hours of electives chosen with the area adviser's consent from radio-television-film courses or related fields.

Students specializing in speech and/or theater who intend to teach at the secondary level must meet the following requirements for their area of specialization:

1. Rhetoric and Communication—Speech 211, 213, 221, 228, 335, 636, 661, 674 and at least 12 hours elected with the area adviser's consent from rhetoric and communication courses. Students must have sufficient debate experience.

2. Theater—Speech 221, 243, 244, 253, 259, 623, 624, 661, 674, plus 9 hours elected with the area adviser's consent from theater courses.

3. Combined Theater and Rhetoric and Communication—Speech 211 or 636, 213, 221, 228, 243, 244, 259, 661, 674, plus 9 hours elected with the area adviser's consent.

Students planning to teach should also check the state certification requirements to make sure that they will fulfill the necessary requirements. Students must meet the requirements for the professional education sequence and, prior to admission to the student teaching semester, must have a 2.50 overall grade point average in their major field and recommendation from the major department. Students in Fairmount College of Liberal Arts and Sciences must meet the graduation requirements for both Fairmount College and the College of Education.

Broadcast-Journalism Combined Major. Students planning to major in the combined broadcast-journalism program, must meet the following requirements: Speech 114, 221 or 222, 322, 522, 606 and Journ. 200, 500, plus 6 hours of upper division speech or journalism electives. Students must have a concentration (or minor) of not fewer than 15 hours in one additional field of study with the consent of their adviser.

Minor. A minimum of 15 hours must be selected with the approval of the speech communication department. At least 6 of the 15 hours must be upper division courses. Students interested in a radio-television-film minor must take Speech 114, 224 and 332, plus at least 6 hours of electives with the area adviser's consent.

GENERAL

Lower Division Courses

111. Basic Public Speaking. (3). A study of basic concepts of speech communication and listening as applied to public speaking. The course is designed for students wishing to enhance leadership potential by improvement in traditional public speaking situations. Course is not counted toward a speech communication major. (The University's requirement in oral communication may be fulfilled by completion of either Speech 111 or 112. For especially qualified students, an exemption or advanced standing examination is available. For further information, contact the speech communication department.) A 27 111 0 1506

112. Basic Interpersonal Communication. (3). To develop an awareness of the elements of interpersonal communication
and to aid the student in establishing more meaningful and satisfying interpersonal relationships through participation in group dynamics. The course is not counted toward a speech communication major. (The University’s requirements in oral communication may be fulfilled by completion of either Speech 111 or 112. For especially qualified students, an exemption or advanced standing examination is available. For further information, contact the speech communication department.) A 27 112 0 1506

Courses for Graduate/Undergraduate Credit

660. Seminar in Speech. (2-3). Special seminars designed to treat current areas of interest or problems in: (a) rhetoric and communication, (b) theater, (c) radio-television-film or (d) speech education. Repeatable for credit. A 27 660 9 1599

661. Directing the Forensics Program. (3). A study of the methods and procedures in coaching and directing the high school and collegiate forensic programs (debate and individual events). The future teacher is made aware of the literature and professional organizations in the field. A 27 661 0 1599

665. Communicative Disorders. (3). Cross-listed as Logo. 705. A survey of commonly encountered speech, language and hearing disorders; their identification; and treatment. Emphasis is placed on the role of the classroom teacher and other specialists in the total habilitative process. A 27 665 0 1220

674. Communication Concepts for the Classroom Teacher. (3). Stresses two general goals: (1) improving the speech communication skills of the teacher and (2) providing teachers with the knowledge to understand and better facilitate the communication behavior of students in their classrooms. Emphasis is placed on practicing such skills as controlling voice and diction, lecturing, leading large- and small-group discussions, questioning and other communication activities for the classroom. A 27 674 0 1599

675. Directed Study. (2-4). Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 27 675 3 1599

RADIO—TELEVISION—FILM

Lower Division Courses

114. Introduction to Radio and Television. (3). The structure and operation of broadcasting in the United States. Includes review of radio and television advertising, programming, regulation and history. Provides perspective on the broadcasting industry in the community. A 27 114 0 0603

215. Radio Practicum. (2). Application of theory to practice by performing assigned activities at KMUW for 6 hours per week. Prerequisite: instructor’s consent. A 27 215 2 0603

220. Introduction to Film Studies. (3). Emphasis is placed on the nature and function of film as a mode of communication, with attention to film theory and technical criticism. Selected films will be shown in class. A 27 220 0 0603

Upper Division Courses

315. Advanced Radio Practicum. (2). Application of theory to practice by performing assigned activities at KMUW for 6 hours per week. Prerequisite: Speech 215 or instructor’s consent. A 27 315 5 0603

320. Cinematography. (3). Theory and technique of motion picture making and use of motion picture camera, with emphasis on documentary film concepts. A 27 320 0 0603

322. Broadcast News. (3). 3R; 3L. Cross-listed as Journ. 322. Theory and technique of preparing news for the broadcast media. Students prepare newscasts and news reports for public radio station KMUW. Prerequisites: Journ. 200. A 27 322 0 0602

332. Radio-Television Writing. (3). Writing formats, commercials, continuity and drama for radio and television. A 27 332 0 0603

Courses for Graduate/Undergraduate Credit

504. Television Production and Direction. (3). Basic principles, procedures and

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, R; L arr., means lecture with laboratory arranged.
techniques of TV production including operation of studio equipment and direction of TV programs. Prerequisite: instructor's consent. A 27 504 2 0603

522. Advanced Broadcast News. (3). Cross-listed as Journ 522. A course in the techniques of preparing news for radio and television presentation, with emphasis on actual work in radio and television newsrooms. Prerequisite: Speech 322 or Journ. 322. A 27 522 1 0603

604. Advanced Television Production and Direction. (3). Application of television equipment and techniques for expression of ideas and concepts. Execution of visual and audio impression in relation to effective communication. Prerequisite: Speech 504 or instructor's consent. A 27 604 2 0603

605. Radio and TV Station Management. (3). The organization and management of radio and television stations, including administrative, programming, technical and sales problems, and physical facilities. Prerequisite: departmental consent. A 27 605 0 0603

606. Broadcasting and the Law. (3). Explores legal forces operating in the broadcast industry emanating from laws, rules and regulations of various federal agencies, industry self-regulation and citizen action. Emphasis is on the underlying philosophy and trends in influencing various events in broadcast regulatory history. A 27 606 0 0603

607. Radio and TV Programming. (3). Planning, developing and scheduling based upon audience and market analysis, program ratings, principles of evaluation and criticism. A 27 607 0 0603

RHETORIC AND COMMUNICATION

Noncredit Course

011. Reducing Fear of Speaking. (2). A course designed for students who feel an unwarranted degree of fear, nervousness or "stagefright" when confronting situations calling for oral communication, especially but not exclusively, before groups of people. The goal of the course is to reduce the fear of such situations through practice in supportive settings and other specific methods developed in the fields of counseling and speech communication that have been demonstrated effective in reducing communication anxiety. A 27 011 0 1506

Lower Division Courses

190G. Crises in Communication. (3). An exploration of several alternative frameworks by which man copes with and controls the communication environment. The student will have both observational and experiential opportunities to discover the variety of patterns used by humans to symbolically interact with themselves, each other and entire cultures. Multimedia instructional procedures are utilized. A 27 150G 0 0601

201. Debate. (1). Research for debates, participation in 30 or more full-length debates per year (15 of which must be intercollegiate competition) and debate squad meetings. Repeatable for a maximum of 4 hours credit in Speech 201 and/or 401. May not be counted toward a major. Prerequisite: departmental consent. A 27 201 5 1506

211. Persuasive Speaking. (3). Training in influencing human behavior in socially acceptable ways via the spoken word. A 27 211 0 1506

213. Argumentation and Advocacy. (3). A study of the principles of effective rational discourse, oral and written, dealing with controversial issues in public deliberative, forensic and educational areas. Includes valid and fallacious reasoning as well as tests of evidence. A 27 213 0 1506

222. Improving Voice and Diction. (3). A course for students wishing to improve their speaking voices and gain greater control over their pronunciation of spoken English. The course is performance oriented; however, the anatomy of the vocal mechanism and the International Phonetic Alphabet are studied for practical application in the improvement of voice and diction. A 27 222 0 1506

226. Parliamentary Law and Procedure. (1). The parliamentary rules governing the order and conduct of meetings and the methods of keeping and writing minutes and resolutions. A 27 226 0 1506

228. Small-Group Communication. (3). A study of the nature and functions of groups and development of skills for identifying and evaluating communication behavior as reflected in human interaction in small-group situations. A 27 228 0 1506

Upper Division Courses

312. Nonverbal Communication. (3). A study of theory and research in nonverbal
communication. Students explore different aspects of nonverbal communication and engage in original research and study in the field of nonverbal communication. Emphasis is given to the application of nonverbal communication to the total human communication process. Prerequisite: Speech 111 or 112. A 27 312 0 1506

325. Business and Professional Speaking. (3). A study of the basic concepts of public speaking and discussions as they apply to the business and professional person. Emphasis is given to public presentations, group leadership, and interpersonal communication as appropriate to business and professional oral communications. A 27 325 0 1506

335. Development of Rhetorical Theory. (3). Review of the rhetorical foundations of contemporary communication theory from the perspective of selected individuals and works encompassing Graeco-Roman, Medieval English and American rhetorical thought. A 27 335 0 1506

401. Debate. (1). Research for debates, participation in 30 or more full-length debates per year (15 of which must be intercollegiate competition) and debate squad meetings. Repeatable for a maximum of 4 hours credit in Speech 201 and/or 401. May not be counted toward a major. Prerequisite: departmental consent. A 27 401 5 1506

Courses for Graduate/Undergraduate Credit

612. Contemporary Theories of Oral Communication. (3). Conceptual models useful in the scientific study of speech and application from selected areas of psychology, sociology, anthropology and other related fields. A 27 612 0 1506

613. Advanced Theories of Argumentation. (3). Intensive examination of the principles and problems of reasoned discourse. A 27 613 0 1506

615. Language and Symbolic Processes. (3). Application of the theoretical framework of general semantics, linguistics and psycholinguistics to the analysis of oral language behavior. Analysis of language usage that leads to conflict, confusion, and misdirection and development of methods of accuracy and precision in language usage. A 27 615 0 1506

632. American Public Address. (3). Cross-listed as Amer. Stud. 632. 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 times to the present is assessed. A 27 632 0 1506

635. Leadership Techniques for Women. (3). Cross-listed as WS 635. A course designed to provide the woman student experience in decision making and to improve skills in leadership through role playing and exercise in group dynamics. A 27 635 0 1506

636. Advanced Public Speaking. (3). Theory and practice in the various forms of platform speaking for the academically mature student. Course includes such special forms as the after-dinner speech, speeches of goodwill, tribute, keynote and courtesy. A 27 636 0 1506

637. Theories and Effects of Mass Persuasion. (3). An analysis of the classical, contemporary and homeostatic theories of mass persuasion. Mass-communicated persuasion compared to persuasion in other audience settings. Conceptual models, typological effects and contributory agents of mass persuasion. Differential persuasive powers and advantages attributed to the several media. Effects of message content on mass audiences are explored. A 27 637 0 1506

672. Practicum in Audience Measurement. (3). Application of research techniques to practical problems in audience measurement. Also included are the identification of specific problems, the construction of measuring instruments (e.g., questionnaires), sampling techniques, collection of data, tabulation, analysis and reports of findings. Prerequisite: Speech 770 or departmental consent. A 27 672 2 1599

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: Speech 112 or instructor's consent. A 27 712 0 1506

770. The Audience. (3). Analysis of speech audiences, including those of radio, television, public address and theater. Demographic and psychosociological dimensions and characteristics, quantitative and qualitative techniques of audience measurement, and evaluations thereof are included. A 27 770 0 1509
THEATER

Lower Division Courses

143G. The Art of the Theater. (3). An introduction to the theater as an art form, with emphasis on critical appreciation from the viewpoint of the audience. The course is not counted toward a theater major. A 27 143G 0 1007

221. Oral Interpretation. (3). The development of the mental, vocal and analytical techniques essential to the oral interpretation of literature. A 27 221 0 1007

243. Acting I. (3). Emphasis on the internal techniques of acting, on characterization and on the actor's analysis of the play and the role. A 27 243 0 1007

244. Stagecraft. (3). Theory and practice of making, painting and using scenery for the stage. Practical work on University Theatre and Experimental Theatre productions. A 27 244 1 1007

253. Costuming for the Stage. (3). R; L arr. Basic principles of costume design and construction; pattern making, material selection, wardrobe management and organization; and practical experience with University Theatre and Experimental Theatre productions. A 27 253 1 1007

259. 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: Speech 243 or departmental consent. A 27 259 1 1007

Upper Division Course

375. Directed Projects in Theater. (2-4). Independent research or practical and creative projects in the various areas of theater, including performance, design, technical theater, management and dramatic literature. Repeatable for credit to a maximum of 4 hours. Prerequisite: departmental consent. A 27 375 2 1007

Courses for
Graduate/Undergraduate Credit

516 & 517. Playwriting I and II. (3 & 3). Cross-listed as Eng. 517 and 518. The writing of scripts for performance. Emphasis is on both verbal and visual aspects of playwriting. If possible, the scripts will be performed. Prerequisite: instructor's consent. A 27 516 0 1007 & A 27 517 0 1007

542. Advanced Acting. (3). Continued development of methods established in Speech 243, with additional emphasis on contemporary vocal and movement techniques. Prerequisites: Speech 243 and sophomore standing. A 27 542 0 1007

544. Advanced Stagecraft. (3). R; L arr. A study of the principles of scale perspective and foreshortening applied to the stage with consideration of the elements of design and composition, light and shadow, as employed in scene design. All elements of advanced stagecraft: new materials and scenic techniques are considered in this study. Students complete practical studio work in the design of settings for a variety of productions. They must complete at least one project design including elevation drawing, water-color perspective, scaled model and a complete set of working drawings. Prerequisite: Speech 244. A 27 544 0 1007

559. Directing II. (3). R; L arr. Staging and rehearsal techniques, with emphasis on the problems of the period and stylized play. Prerequisites: Speech 259 or departmental consent and junior standing. A 27 559 0 1007

610. Musical Theater for the Public School Teacher. (2). Cross-listed as Mus. Ed. 610. Provides an interdisciplinary course, utilizing interdepartmental expertise (speech and music) to teach the student in both areas how to produce a musical in the secondary schools. Prerequisite: concurrent enrollment in Mus. Ed. 610. A 27 610 0 1007

621. Advanced Oral Interpretation. (3). Intensive study and analysis of various forms of literature, the techniques of effective oral communication and the building of the individual or group concert recital. Arranged workshops and festivals. Prerequisites: Speech 221 and junior standing. A 27 621 0 1007

622. Academic Theater Practicum. (2). The investigation and exploration of the theatrical act in the classroom situation within the university community. This
course is designed to reinforce the researching, writing, directing and performing skills. Enrolled students, functioning as a company, produce and perform for various disciplines on campus. Repeatable once for credit. A 27 662 2 1007

623. Development of the Theater I. (3). The history of theatrical activity as a social institution and an art form, from its beginnings to the 17th century. Representative plays, methods of staging and theatrical architecture of various periods are included. A 27 623 0 1007

624. Development of the Theater II. (3). From the 17th century to the present. A 27 624 0 1007

625. 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: Speech 623 or 624 or departmental consent. A 27 625 0 1007

643. Styles in Acting. (3). Training in, and development of, the special techniques required for period or stylized plays, with special emphasis on Greek, Shakespearean, Restoration and modern nonrealistic styles. Prerequisites: Speech 243, 542 and junior standing. A 27 643 0 1007

644. Scene Design. (3). Fundamentals of scene design. Practical work on University Theatre and Experimental Theatre productions is included. A 27 644 1 1007

645. Stage Lighting. (3). R; L arr. Lighting equipment and light design and its relation to scenery design. Emphasis is upon the problems in schools and colleges. Practical work on University Theatre and Experimental Theatre productions is included. Prerequisite: Speech 244 with a grade of C or better. A 27 645 1 1007

653. History of Costume. (3). R; L arr. Historical survey and individual research of dress from ancient Egypt to present day with emphasis on social, political, economic and religious influences. Theory and practice of adapting period styles to the stage. Prerequisite: Speech 253 or departmental consent. A 27 653 0 1007

Courses for Graduate Students Only

803. Educational and Instructional Broadcasting. (3). Investigation of the methods of producing and using educational and in-school instructional radio and television programs. A 27 803 0 0603

820. Investigation and Conference. (2-3). Directed research and experimentation for graduate students in some phase of (a) public address, (b) theater history and production, (c) radio-television or (d) the teaching of speech. Repeatable for credit up to a total of 6 hours. A 27 820 3 1599

823. History of Dramatic Criticism. (3). A survey and analysis of major critical theories from Aristotle to the present. A 27 823 0 1007

824. Development of Modern Theater Styles. (3). An examination of the major movements in the modern theater since 1850. Emphasis is on both literary and physical elements of styles. A 27 824 0 1007

830. Theories of Rhetoric: Classical. (3). An intensive study of the rhetorical theories of classical writers from 466 B.C. to the decline of Roman oratory. Principal emphasis is on Isocrates, Plato, Aristotle, Quintilian, Cicero and Longinus. A 27 830 0 1506

831. Theories of Rhetoric: Medieval, Renaissance and Modern. (3). A study of the emerging patterns of rhetoric from the Second Sophistic to modern times. Analysis is made of the rhetorical systems associated with such figures as Augustine, Fenelon, Sheridan, Steale, Rush, John Quincy Adams, Blair, Campbell and Whately. A 27 831 0 1506


860. Seminars in Speech. (2-3). Special seminars designed to treat problems in: (a) public address, (b) drama, (c) radio-television or (d) speech education. Repeatable for credit. A 27 860 9 1599

867. Trends in Speech Education. (3). To provide advanced speech students with a background for a philosophy of speech education. Readings and seminar discussion concern the philosophical rationales that underlie speech and drama as academic disciplines. Included also are the history of speech education, analysis of theories and methods, and comparative study of speech curricula today and projections to the future. A 27 867 0 1599
Urban Affairs

Majors in urban affairs follow a flexible, interdepartmental program that provides a broad understanding of the modern city. (See the beginning of the Fairmount College of Liberal Arts and Sciences—Field Majors section of the Catalog.) Several graduate programs are also offered in urban affairs, as described in the Wichita State University Graduate School Bulletin.

Courses for Graduate/Undergraduate Credit

700. Urban Affairs I. (3). A study of the process of urbanization from a multidisciplinary point of view. Prerequisite: enrollment in urban affairs program or instructor's consent. P 13 700 0 2214

701. Urban Affairs II. (3). Study of selected urban problems with intensive library and classroom study of particular bodies of literature. Prerequisite: UA 700. P 13 701 0 2214

702. Urban Research Methods. (3). This course is designed to acquaint the student with applied public policy research methods. Emphasis is upon locating, appraising and utilizing secondary sources of data of the type used in policy, planning and administrative research. Students must complete several short research projects. Prerequisite: enrollment in Urban Affairs Program or instructor's consent. P 13 702 4 2214

720. Urban Systems. (3). Cross-listed as IE 720. This course develops the principles of systems analysis and the tools by which these principles can be applied. Example applications are taken from urban problems. Emphasis is on the formulation of realistic models and solutions. Computer techniques are developed in class as necessary. Prerequisite: instructor's consent. P 13 720 0 2214

730. Decision Making. (3). Course includes theories of decision-making ability under varying degrees of uncertainty. Content coverage includes such materials as theories of decision making, environment for stimulating creativity, cognitive inhibitors to problem identification, alternative evaluation techniques, decision implementation and utilization of quantitative tools in decision making. Prerequisite: instructor's consent. P 13 730 0 2214

755. Special Topics in Urban Affairs. (3). Provides students with an opportunity to engage in advanced study in urban topics that are of immediate concern and arise only occasionally. The content varies with issues that arise, student needs and faculty expertise. Directed to Master of Urban Affairs students. May be repeated if topics are different. Prerequisite: instructor's consent. P 13 755 0 2214

790. Urban Affairs Internship. (3). The internship is designed to integrate academic pursuits and practical experience. Students admitted to the internship are assigned to work in an approved government, community or private organization for a period of 3 to 12 months. As a part of the internship experience, the intern is required to submit and be examined upon an internship paper. Prerequisites: completion of all urban affairs core courses and 6 hours of additional graduate credit courses. P 13 790 2 2214

799. Urban Seminar. (3). The seminar is designed to integrate experiences with interdisciplinary knowledge. The seminar includes lectures, discussions, readings and other related efforts. The seminar is normally offered in the fall semester. P 13 799 9 2214

Courses for Graduate Students Only

875-876. Thesis. (3). Prerequisite: adviser's consent. P 13 875 0 2214

Women's Studies

A field major is offered in women's studies, as described at the beginning of the Fairmount College of Liberal Arts and Sciences—Field Major section of the Catalog.
Lower Division Courses

138. Philosophy of Feminism. (3). Cross-listed as Phil. 138. A 24 138 0 1509

163. Women in Business. (3). Cross-listed as Admin. 163. B 12 163 0 0506


299. Women in the Economy. (3). Cross-listed as Econ. 299. A 10 299 0 0516

299A. Sexuality and the Sacred. (3). Cross-listed as Rel. 299A. A 15 299 0 1510

Upper Division Courses

325. Women in the Political System. (3). Cross-listed as Pol. Sci. 325. A 22 325 0 2207


382. Women in the Administration of Justice. (3). Cross-listed as AJ 382. A 10 382 0 2105

387. Women in Society: Cultural Images. (3). This course examines the roles, relationships and roots of women in our society as reflected in such areas as art, literature, myth, religion, psychology, education and politics. Women in other cultures and other times will also be considered, as will feminist visions of the future. (Course not available for credit to students who have taken Humanities 389.) A 10 387 0 4903

388. Women in Society: Social Issues. (3). This course examines women’s efforts to claim their identity from historical, legal and social perspectives. Included for consideration are recent laws relating to women; contemporary issues (such as rape, day care, working women, the future of marriage); agencies for change, theories of social change; and the relationship of women’s rights to human rights. (Not available for credit for students who have taken Humanities 389.) A 10 388 0 4903

Courses for Graduate/Undergraduate Credit

516. Sociology of Sex Roles. (3). Cross-listed as Soc. 516. A 10 516 0 2208

530. The American Woman in History. (3). Cross-listed as Hist. 530. A 10 530 0 2205

533. Women and the Law. (3). This course is an introduction to the legal aspects of women’s rights, including the equal rights amendment to the U.S. Constitution; right to choose a name; sex discrimination in employment, education and credit; welfare and criminal justice. Consideration will also be given to women in the field of law, such as lawyers and legislators. A 10 533 0 0313


536. Writing by Women. (3). Cross-listed as Eng. 536. A 10 536 0 1502

542. Women in Other Cultures. (3). Cross-listed as Anthro. 542. A 10 542 0 2202

550. Women and Religion. (3). Cross-listed as Rel. 550. A 10 550 0 1510

560. Widowhood. (3). (Sometimes the topic of psychology tutorial.) See Psych. 560. A 23 560 2 2001

589. Seminar in Women’s Issues. (3). Designed to give students experiential learning in interdisciplinary skill development related to women’s issues in law, psychology, sociology, economics and literature and to offer independent study and field work in the students’ area of specialization related to women. A 10 589 0 4903


599a-599b. Women’s Literature from a Regional Perspective. (6). This is a two-semester course for undergraduates and graduates on the role of women in the region as revealed by fiction, non-fiction and oral history. Includes field research leading to oral presentations to community organizations and to publishable scholarly papers or creative writing projects based on the research. A 10 599 2 1502

635. Leadership Techniques for Women. (3). Cross-listed as Speech 635. A 10 635 0 1599

750. Current Concerns of Women. (2-3). Workshop. P 14 750 0 4903

752. Sexism in Education. (3). See IS 752. D 19 752 2 0802

Course for Graduate Students Only


Fairmount College/Women's Studies 417
UNIVERSITY FACULTY AND ADMINISTRATIVE STAFF—FALL, 1978

Date or dates following title refer to time of initial and successive appointments.


Ackerman, Paul D., Assistant Professor of Psychology (1968). BA, University of Kansas, 1964; MA, ibid., 1966; PhD, ibid., 1968.

Adamson, Carl L., Assistant Professor of German (1965, 1971). BA, Wichita State University 1963; MA, Washington University, 1967; PhD, ibid., 1975. (Sabbatical leave—second semester)

Adamson, Ginette, Assistant Professor of French (1965, 1972). Diplome de Fin d'Etudes Normales, Ecole Normale d'Institutrices, 1963; MA, North Carolina Central University, 1965; PhD, Washington University, 1975. (Sabbatical leave—second semester)


Adrian, Phillip, Assistant Professor of Physical Education (1966). BA, Wichita State University, 1965; MA, ibid., 1968; EdD, Oklahoma State University, 1974.

Ahlberg, Clark D., President and University Professor (1968). BA, Wichita State University, 1939; MA, Syracuse University, 1942; PhD, ibid., 1951; LLD, ibid., 1969.

Albott, William L., Faculty Associate of Community Health Education (1976). BA, Fort Hays State University, 1964; MS, ibid., 1965; PhD, Ohio University, 1971.

Alexander, Charles William, Assistant Professor of Psychology (1978). BS, Denison University, 1973; MA, Bowling Green State University, 1975; PhD, ibid., 1978.

Alexander, David R., Associate Professor of Physics (1971). BS, Kansas State University, 1967; AM, Indiana University, 1968; PhD, ibid., 1971.

Alic, John A., Associate Professor of Mechanical Engineering (1972). BME, Cornell University, 1964; MS, Stanford University, 1965; PhD, University of Maryland, 1972. (Leave of absence—Spring 1979)

Allegrucci, Robert L., Assistant Professor of Sociology (1967). BS, Pittsburg State University, 1959; MA, ibid., 1960; PhD, University of Missouri, 1969.

Allen, Anneke S., Associate Professor and Interim Chairperson of Department of Chemistry and Associate Dean of Fairmount College of Liberal Arts and Sciences (1964). Candidate Ryksuniversiteit Groningen Netherlands, 1952; PhD, Tulane University, 1955.


Allen, Ruth M., Associate Professor of Nursing and Nursing Education Specialist (1976). BS, University of Michigan, 1959; MS, Michigan State University, 1961; PhD, ibid., 1972.

Alley, Robert D., Professor of Secondary Education (1967). BS, Iowa State University, 1957; ME, University of Montana, 1960; EdD, Arizona State University, 1967.


Anderson, Robert E., Professor of Educational Administration and Director of Educational Field Services (1967). BA, University of Iowa, 1952; MA, ibid., 1953; EdD, University of Nebraska, 1963.


Arteaga, Lucio, Professor of Mathematics (1968). BA, University of Zaragoza, Spain, 1942; MS, Dalhousie University, 1959; PhD, University of Saskatchewan, 1964.


Bair, Sue F., Assistant Professor of Physical Education (1966). BA, Wichita State University, 1961; ME, ibid., 1967.

Bajaj, Prem N., Associate Professor of Mathematics (1965). BA, Punjab University, 1951; MA, ibid., 1954; MS, Case Western Reserve University, 1967; PhD, ibid., 1968. (Sabbatical leave—second semester)


Balint, Laszlo, Acting Assistant Professor of Italian (1975). BA, Virginia Commonwealth University, 1970; MA, University of Wisconsin, 1974.

Ballenger, Marcus T., Associate Professor of Elementary Education (1970). BS in Ed, North Texas State University, 1959; MEd, Texas Tech University, 1963; EdD, ibid., 1970.

Bardo, John W., Assistant Professor and Chairperson of Department of Sociology/Social Work (1973). BA, University of Cincinnati, 1970; MA, Ohio University, 1971; PhD, Ohio State University, 1973.

Barker, C. Douglas, Director of Project Discovery (1976). BA, University of California at Berkeley, 1951.


Barnes, Ethne J., Assistant Professor of Nurse Clinician (1977). BSN, Wichita State University, 1974; MA, ibid., 1977.

Barr, Jane L., Faculty Associate of Respiratory Therapy (1975). AAS, Wichita State University, 1971.


Bartel, Peter S., Assistant Professor of Physics (1965). AB, Bethel College, 1943; MA, University of Iowa, 1953.

Bateman, Morita M., Associate Professor of Administration (1966). BSME, University of South Carolina, 1946; MS, University of North Carolina, 1950; PhD, Oklahoma State University, 1967.


Beason, George Marion, Instructor of Administration (1973). BBA, Wichita State University, 1971; MS, ibid., 1972.

Becker, D. Wayne, Associate Professor of Industrial Education (1962). BA, Wichita State University, 1958; MS, Pittsburg State University, 1962; EdD, University of Illinois, 1969.

Belt, John A., Associate Professor of Administration (1971). BA, University of Southern California, 1966; PhD, Texas Tech University, 1971.


Bennett, Tina L., Assistant Professor of English (1978). BFA, California Institute of the Arts, 1973; MA, University of Southern California, 1976; PhD, ibid., 1978.

Benningfield, Lloyd M., Professor of Electrical Engineering and Dean for Graduate Studies and Research (1967). BSEE, Oklahoma State University, 1951; MSEE, University of Missouri, 1967; PhD, Purdue University, 1965.
Benson, Fred W., Assistant Professor of Administration of Justice (1976). BA, Earlham College, 1952; MBA, University of Michigan, 1954; JD, ibid., 1957.

Berg, J. Robert, Professor and Chairperson of Department of Geology (1946). BA, Augustana College, 1938; MS, University of Iowa, 1940; PhD, ibid., 1942.


Bernard, David E., Professor of Printmaking (1949). BFA, University of Illinois, 1939; MFA, University of Iowa, 1949.

Bernhart, Walter D., Professor of Aeronautical Engineering (1954, 1964). BSCE, Kansas State University, 1950; MS, Wichita State University, 1959; PhD, Oklahoma State University, 1964.

Bertsch, Linda, Assistant Instructor and Director of Center for Continuing Health Education (1976). BA, Wichita State University, 1978.


Biller, Gary M., Instructor and Counselor in University College (1976). BS, Oklahoma State University, 1975; MS, ibid., 1976.

Billings, Dorothy K., Assistant Professor of Anthropology (1968). BA, University of Wisconsin, 1955; PhD, University of Sydney, 1972.

Bing, Bonnie, Assistant to the Athletic Director, Women’s Athletics (1976). BA, Wichita State University, 1970; MEd, ibid., 1976.

Bish, John T., Assistant Professor of Biological Sciences (1963). BS, Wichita State University, 1962; MS, ibid., 1965.

Blake, Leslie M., Professor of Speech Communication (1940). BS, Kansas State University, 1937; MS, ibid., 1939.

Blake, Rufus W., Jr., Assistant Instructor of Sociology, Assistant Dean of Students and Director, Project TOGETHER (1966). BA, Wichita State University, 1966; MA, ibid., 1973.

Blakeslee, Donald J., Assistant Professor of Anthropology (1976). BA, University of Nebraska, 1969; MA, ibid., 1971; PhD, University of Wisconsin-Milwaukee, 1975.

Blazicek, Donald L., Assistant Professor of Administration of Justice (1976). BA, Northern Illinois University, 1967; MA, ibid., 1970; PhD, Michigan State University, 1976.

Blythe, Jack C., Professor of Geology (1949, 1957). BA, Wichita State University, 1947; MS, Northwestern University, 1950; PhD, University of Oklahoma, 1957.

Bontrager, Ralph L., Professor of Educational Administration (1966). BS, University of Kansas, 1951; MEd, ibid., 1952; EdD, ibid., 1965.

Born, John D., Jr., Associate Professor of History (1968). BA, University of Texas, 1952; MA, University of Houston, 1958; PhD, University of New Mexico, 1963. (Sabbatical leave—academic year 1978-79)

Borresen, C. Robert, Associate Professor and Chairperson of the Department of Psychology (1965). BS, Northwestern University, 1953; AM, University of Missouri, 1958; PhD, ibid., 1968.


 Boughton, Harrison C., Associate Professor of Choral Music and Voice (1961). BA, University of Northern Iowa, 1956; MA, University of Denver, 1959; DMA, University of Missouri at Kansas City, 1975.


Boyd, John David, Assistant Professor of Printmaking and Chairperson of Department

Bradley, Phillip L., Assistant Professor of Health Education and Supervising Dentist of the School of Dental Hygiene (1972). BA, Southwestern College, 1957; DDS, University of Missouri at Kansas City, 1960.

Brady, Stephen W., Associate Professor of Mathematics (1967). AB, Indiana University, 1963; AM, ibid., 1965; PhD, ibid., 1968.

Brandhorst, Armin L., Assistant Professor of Engineering and Director of Physical Plant (1964). BSME, Kansas State University, 1959; MSME, Oklahoma State University, 1964.

Bravo-Elizondo, Pedro, Assistant Professor of Spanish (1975). Universidad Tecnica del Estado, Chile, 1957; MA, Education, Catholic University, Valparaiso, Chile, 1964; MA, University of Iowa, 1971; PhD, ibid., 1974.

Breazeale, John B., Professor of Physics, Vice President for Academic Affairs and Dean of Faculties (1959). BS, Millsaps College, 1947; MS, University of Alabama, 1951; PhD, University of Virginia, 1955.

Bredehoft, Theodore C., Associate Professor of Physical Education and Director of Athletics (1972). BS, Cornell College, 1954; MS, University of Washington, 1959.

Brewer, Donald D., Adjunct Assistant Professor of Administration (1978). BS, Kansas State University, 1964; MS, Wichita State University, 1966.

Brewer, Jeneva J., Associate Professor of Mathematics (1949). BA, Wichita State University, 1946; MA, ibid., 1949.

Bridgens, James, Adjunct Associate Professor of Administration of Justice (1976). BS, University of Kansas, 1945; MD, ibid., 1947.


Brinkman, Sidney E., Assistant Professor of Accounting (1958, 1965). BA, Wichita State University, 1956; MS, ibid., 1966; CPA Certificate, Kansas.

Britton, Clark V., Jr., Professor of Printmaking and Chairperson of Department of Graphic Design (1957). BAA, Auburn University, 1952; MAA, ibid., 1955.

Broadhead, Glenn J., Assistant Professor of English Composition (1973). BA, California State University, Los Angeles, 1963; MA, University of California, Davis, 1970; PhD, ibid., 1973.


Brown, Amy Frances, Distinguished Visiting Professor of Nursing (1978). BEd, Western Illinois State Teachers College, 1930; MS, Western Reserve University, 1940; PhD, University of Chicago, 1952.


Brown, Michael S., Instructor and Associate Director of Admissions (1972). BA, Henderson State University, 1967; MEd, Wichita State University, 1975.


Bue, Gary D., Faculty Associate of Respiratory Therapy (1976). AS in Respiratory Therapy, Wichita State University, 1971.

Buell, Gregory J., Assistant Professor and University Counselor (1975). BS, University of Iowa, 1968; MA, Southern Illinois University, 1972, PhD, ibid., 1975.

Buess, Charles M., Professor of Chemistry (1961). BA, Ohio State University, 1942; MS, Case Western Reserve University, 1946; PhD, University of Southern California, 1949.

Bugg, Phillip W., Assistant Professor of Health Administration and Education and Director, Health Education Research and Development (1974). BA, Wichita State University, 1965; MS, Indiana University, 1970.


Burk, Kenneth W., Professor of Logopedics (1971). BA, University of Iowa, 1953; MA, University of Kentucky, 1958; PhD, Purdue University, 1962.

Burnett, Darrell Jack, Instructor of Administration and Assistant Director of Planning (1967). BSBA, Wichita State University, 1957; MS, ibid., 1967.


Burns, Ralph M., Assistant Professor of Electrical Engineering (1977). BSEE, University of Tennessee, 1960; MSEE, Purdue University, 1962; PhD, University of Alabama, 1976.


Butin, J. Walter, Adjunct Assistant Professor of Health Education in the Physician’s Assistant Program (1973). AB, University of Kansas, 1944; MD, ibid., 1947; MS in Medicine, University of Minnesota, 1952.


Cardenas, Anthony J., Assistant Professor of Spanish (1975). BA, University of New Mexico, 1968; MA, University of Wisconsin, 1969; PhD, ibid., 1974.

Carman, Mary, Adjunct Assistant Professor of Gerontology (1976). BA, University of North Dakota, 1970; MA, ibid., 1973; PhD, ibid., 1976.

Carmody, Denise L., Assistant Professor of Religion and Women’s Studies (1977). AB, College of Notre Dame of Maryland, 1958; MA, Boston College, 1966; PhD, ibid., 1970.


Carpenter, Naomi, Administrative Assistant to the President (1972).


Carson, Doris M., Associate Professor, Library (1957). BA, Kansas Wesleyan University, 1933; MA, University of Kansas, 1941; MS, University of Illinois, 1954.

Carter, Ralph, Assistant Professor of Political Science (1978). BA, Midwestern State University, 1974; MA, Ohio State University, 1977; PhD, ibid., 1978.

Cathers, Robert E., Assistant Professor of Chemistry and Coordinator of General Chemistry (1965). BS, Wichita State University, 1961; MS, ibid., 1963; PhD, Texas Tech University, 1966.


Cavarozzi, Joyce Pennington, Associate Professor of Speech Communication and Theater (1965). BS in Ed, Ohio University, 1953; MA, Ohio State University, 1963.

Ceasar, James J., Professor of Violin (1949). BM, Cleveland Institute of Music, 1940; BS, Case Western Reserve University, 1947; MA, ibid., 1949.

Chaffee, Leonard M., Professor of Education and Dean of College of Education (1967). BA, Hiram College, 1951; MEd, Kent State University, 1952; PhD, Ohio State University, 1961.


Chang, Dae H., Professor and Chairperson of Department of Administration of Justice (1975). BA, Michigan State University, 1957; MA, ibid., 1958; PhD, ibid., 1962.

Chard, Frederick H., Adjunct Assistant Professor of Physician’s Assistant (1973). BA, University of Wisconsin, 1937; MA, ibid., 1938.

Cheng, Le-Chung, Assistant Professor of Mechanical Engineering (1976). BS, National Taiwan University, 1965; MS, North Dakota State University, 1968; PhD, University of Illinois, 1971.

Chesnut, Claire M., Assistant Instructor and Director of University Preschool Program (1972). AB, Washburn University, 1956.

Childs, David T., Associate Professor of Music Theory and Chairperson of Department of Musicology-Composition (1965). BM, Houghton College, 1960; MM, George Peabody College for Teachers, 1961; BD, Vanderbilt University; 1965; PhD, George Peabody College for Teachers, 1971.

Cho, Dong Woo, Associate Professor of Economics (1972). BA, Seoul National University, Seoul, Korea, 1965; MA, Wayne State University, 1969; PhD, University of Illinois, 1973.


Chopra, Dharam Vir, Professor of Mathematics (1967). BA, Punjab University, India, 1950; MA, ibid., 1953; MA, University of Michigan, 1961; AM, ibid., 1963; PhD, University of Nebraska, 1968.

Chrisman, Paul G., Assistant Professor of Speech Communication, Counselor and Director of Financial Aids (1955, 1957). BS, Pittsburg State University, 1936; MS, ibid., 1941.


Christensen, Mark C., Assistant Professor of Health Science and Research and Evaluation Specialist in Health Education Research and Development (1975). BS, Utah State University, 1969; MS, ibid., 1971; PhD, ibid., 1973.

Christenson, Donald D., Professor of Administration and Assistant Vice President for Academic Affairs (1958). BS, Wichita State University, 1955; MS, University of Illinois, 1958; PhD, ibid., 1962. (Leave of absence—fiscal year 1978-79)

Christian, Robert V., Jr., Professor of Chemistry (1946). BS, Wichita State University, 1940; PhD, Iowa State University, 1946.


Chung, Kae H., Professor of Administration (1970). BA, Seoul National University, Seoul, Korea, 1939; MBA, Louisiana State University, 1965; PhD, ibid., 1968.

Ciboski, Kenneth N., Associate Professor of Political Science (1968). BA, University of Kansas, 1961; MA, ibid., 1965; PhD, University of Washington, 1971.

Clark, James E., Assistant Professor of Economics (1976). BA, Michigan State University, 1969; MA, Northwestern University, 1971; PhD, ibid., 1976.

Clark, Mary Ann, Assistant Professor of Dental Hygiene (1973). BS, University of Missouri at Kansas City, 1967; RDH, ibid., 1967; MS, ibid., 1972.

Clark, Vivian N., Instructor and Assistant Director of Admissions (1977). BS, Oklahoma State University, 1972; MS, Syracuse University, 1974.

Clausen, Rene King, Assistant Professor of Voice (1978). BA, St. Olaf College, 1974; MM, University of Illinois, 1977.


Cohenour, Kathleen, Assistant Professor of Dental Hygiene (1978). BS, University of Missouri-Kansas City, 1965; MS, ibid., 1978.

Collins, George W., Associate Professor of History (1968). BS, Northwestern University, 1948; MA, ibid., 1950; PhD, University of Colorado, 1965.

Collison, Brooke B., Associate Professor of Student Personnel and Guidance (1969). BS, University of Kansas, 1956; MEd, ibid., 1962; PhD, University of Missouri, 1969.


Cook, Everett L., Associate Professor of Aeronautical Engineering (1953-1969). BSAE,
Wichita State University, 1954; MSAE, ibid., 1958; PhD, Oklahoma State University, 1967.

Copeland, George M., Adjunct Assistant Professor of Administration (1978). BSIE, Washington University, 1952; MSIE, Case Institute of Technology, 1958.

Corbett, Donald L., Associate Professor of Music Education (1971). BME, Wichita State University, 1953; MME, ibid., 1959; EdD, University of Kansas, 1977.

Corbin, Harry F., University Professor (1946). AB, Wichita State University, 1940; BD, University of Chicago, 1943; LLB, University of Kansas, 1949; PhD, University of Chicago, 1972.

Cornelius, Richard D., Assistant Professor of Chemistry (1977). BA, Carleton College, 1969; PhD, University of Iowa, 1974.


Cossman, Francis P., Adjunct Professor of Physican's Assistant (1974). AB, Wichita State University, 1952; MD, University of Kansas School of Medicine, 1957.


Crespo, Merideth Bennett, Instructor/Program Coordinator of Physician's Assistant (1976). BA, Wichita State University, 1975.

Cress, Allan M., Professor and Chairperson of Department of German (1953). AB, University of Illinois, 1942; MA, ibid., 1948; PhD, ibid., 1952.

Crockett, Helen M., Assistant Professor and Associate Dean of Continuing Education (1956). BA, Wichita State University, 1951; MA, ibid., 1955.

Crow, Gary D., Associate Professor of Mathematics (1962, 1968). BA, Wichita State University, 1960; MS, ibid., 1962; PhD, University of New Mexico, 1968.

Crowns, Arthur J., Jr., Professor of Administration of Justice (1971). BS, University of Wisconsin at Stevens Point, 1947; JD, University of Wisconsin, 1950; MSSW, ibid., 1958; PhD, Florida State University, 1965.

Cummins, Bernard D., Adjunct Instructor and Administrative Assistant to the Director of Placement Center (1975). BA, Wichita State University, 1970; MA, ibid., 1975.


Cutler, R. Bruce, Adele M. Davis Professor of Humanities (1960). BA, University of Iowa, 1951; MS, Kansas State University, 1957; LHD, Southwestern College, 1975.


Daniels, Virginia M., Instructor and Counselor and Assistant to the Dean of University College (1971). BA, Northwestern University, 1947; MEd, Wichita State University, 1967.

Dave, Kaffash C., Adjunct Assistant Professor of Community Health Education (1975). BS, University of Rajasthan, India, 1951; MS, ibid., 1953; PhD, ibid., 1963.


Decker, Jay C., Associate Professor of Music and Director of Orchestras (1971). BMEd, Wichita State University, 1956; MS in Mus Ed, University of Illinois, 1962; DMA, University of Missouri at Kansas City, 1971.

Deer, Montie R., Adjunct Assistant Professor of Administration (1977). BA, University of Wyoming, 1962; MS, Emporia State University, 1966; JD, Washburn University of Topeka, 1969.

deSilva, Dharma, Visiting Professor of Administration (1976). BSBA, University of Evansville, Indiana, 1957; MS, Southern Illinois University, 1959; PhD, Indiana University, 1966.

DeVun, Esmond E., Jr., Associate Professor of Mathematics (1969). BS, Louisiana State University at New Orleans, 1963; MS, Louisiana State University at Baton Rouge, 1966; PhD, University of Massachusetts, 1969.

Dey, Glen R., Professor of Student Personnel and Guidance (1967). BS in Ed, University of Nebraska, 1954; MEd, ibid., 1959; EdD, ibid., 1961.

Diaz, Victor Fabri, Acting Assistant Professor of Spanish (1968). BA, Javeriana University, Bogota, Colombia, 1963; MA, Wichita State University, 1971.

Dicker, Marc Todd, Assistant Professor and Clinical Coordinator in Physician’s Assistant (1975). BA, University of Missouri, 1970; MA, Wichita State University, 1976.

Distrler, Donald A., Associate Professor of Biological Sciences (1963). BA, University of Louisville, 1952; MS, ibid., 1958; PhD, University of Kansas, 1966.

Doeren, Stephen E., Assistant Professor of Administration of Justice (1977). BA, Ottawa University, 1972; MS, University of New Mexico, 1974; PhD, Louisiana State University, 1978.

Doig, J. Robert, Jr., Assistant Professor of Aeronautical Engineering (1963). BS, Physics, Union College, 1938; MS, Pennsylvania State University, 1940.


Dougherty, James Lee, Adjunct Assistant Professor of Administration (1977). BBA, Wichita State University, 1969; MS, Wichita State University, 1970.

Douglas, Donald M., Associate Professor of History (1965). BA, Kansas State University, 1961; MA, ibid., 1963; PhD, University of Kansas, 1968.

Douglas, J. Rex, Associate Professor of Educational Administration and Supervision and Chairperson of Department of Personnel Services (1969). BBA, University of Texas, 1947; MA, Western State College, 1961; EdD, Texas Tech University, 1967.


Drooffort, John E., Associate Professor of History (1970). BS, Bowling Green State University, 1965; MA, ibid., 1966; PhD, Kent State University, 1970.

Drevets, Curtis C., Adjunct Assistant Professor of Health Education in Physician’s Assistant (1973). BS, Wheaton College, 1952; MD, University of Kansas School of Medicine, 1956.

Dryden, Robert D., Associate Professor and Chairperson of Department of Industrial


Duell, Dennis C., Associate Professor of Economics and Associate Dean of College of Business Administration and Director of the Center of Business and Economic Research (1967). BS, Kansas State University, 1961; MS, ibid., 1963; PhD, University of Illinois, 1969.

Duell, Orpha K., Associate Professor of Educational Psychology (1967). BS, Kansas State University, 1963; MS, University of Illinois, 1965; PhD, ibid., 1967.


Dunning, Wayne W., Assistant Professor of Administration of Justice (1961). BS, Iowa State University, 1952; MS, ibid., 1959; PhD, ibid., 1964.

Duram, James C., Professor of History (1968). BA, Western Michigan University, 1961; MA, ibid., 1963; PhD, Wayne State University, 1968.


Dybdahl, Russell E., Assistant Professor, Library (1956). BA, Union College, 1937; MA, University of South Dakota, 1947.


Eckert, William, Adjunct Professor of Administration of Justice and Director, Helpem Center of Forensic Science (1975). BA, New York University, 1943; MD, ibid., 1952.

Ediger, Rebecca, Field Clinical Coordinator of the Physician’s Assistant Program (1977).


Eichler, Victor B., Associate Professor of Biological Sciences (1971). BS, University of Illinois, 1963; MS, ibid., 1964; PhD, University of Iowa, 1969.

Elcrat, Alan K., Professor of Mathematics (1967). BS, University of New Mexico, 1963; MA, Indiana University, 1965; PhD, ibid., 1967.


Ellis, Howard E., Professor of Music Education and Associate Dean of College of Fine Arts (1955). AB, Albion College, 1942; MM, University of Michigan, 1947; PhD, ibid., 1957.


Emery, La Mont C., Assistant Instructor of Mathematics (1977).

Erickson, James, Associate Professor of English (1964). BA, University of Minnesota, 1955; MA, ibid., 1957; PhD, ibid., 1961.


Fagin, James, Assistant Professor of Administration of Justice (1974). BA, University of Nevada, 1971; MS, Southern Illinois University, 1972; PhD, ibid., 1977.

Faires, Sidonie E., Instructor and Clinical Supervisor in Audiology (1976). BA, Wichita State University, 1966; MA, ibid., 1971; PhD, ibid., 1978.

Faires, Wesley L., Associate Professor of Logopedics (1965). BA, Wichita State University, 1958; MA, ibid., 1962; PhD, ibid., 1965.
Farmer, Gale E., Coordinator of Math Laboratory Instructional Services (1972). BS, New Mexico Institute of Mining and Technology, 1970; MS, ibid., 1972.

Farnsworth, David M., Professor of Political Science and Director of General Studies (1956). BA, Wichita State University, 1953; AM, University of Illinois, 1955; PhD, ibid., 1959.


Felkner, Don, Assistant Professor and Chairperson of Respiratory Therapy Program (1978). BS, University of Missouri, 1970; MEd, University of Missouri, 1971.


Fife, Natasha Matson, Assistant Professor of Physical Education and Director of Women’s Athletics (1959). BS, Texas Woman’s University, 1958; ME, Wichita State University, 1967.

Finkins, Richard T., Adjunct Assistant Professor of Health Education in Physician’s Assistant (1973). BA, Drake University, 1953; MD, University of Iowa, 1956.

Fischer, Ronald, Faculty Associate of Nursing (1976). BA, Rutgers University, 1966; PhD, New York University, 1972.

Ford, Margaret, Acting Assistant Professor of Minority Studies (1973). BA, Wichita State University, 1971; MEd, ibid., 1974.


FORSYTH, Judith L., Faculty Associate of Emergency Medical Training (1976).

Foster, Donald L., Assistant Professor and Chairperson of Department of Physics (1966). BA, Reed College, 1957; PhD, University of Kansas, 1968.

Foster, Mary Sue, Assistant Professor and Chairperson of Department of Art Education (1966). BSE, University of Kansas, 1961; MFA, ibid., 1971; MFA, ibid., 1971.

French, Thomas C., Assistant Professor of Mathematics (1965). BS, Wichita State University, 1962; MS, Colorado State University, 1964.

Froning, Dorothy Gardner, Professor of Spanish (1947). AB, Park College, 1936; MA, University of Alabama, 1947; PhD, University of California at Los Angeles, 1961.


Galvin, Mary J., Faculty Associate of Respiratory Therapy (1965). BS, Respiratory Therapy, Wichita State University, 1974.

Gane, Elizabeth Mae, Assistant Professor and Director, The International Program and

Gardenhire, Jo E., Assistant Instructor and Associate Director, Project TOGETHER and Director of Programs for the Physically Handicapped (1973). BS, Lincoln University, 1946; MA, Columbia University, 1949.

Garfield, Nancy J., Associate Dean of Student Life and Services and Assistant Professor (1977). BA, Parsons College, 1968; MS, Western Illinois University, 1970; PhD, University of Missouri, 1975.


Garry, Dan, Adjunct Assistant Professor of Administration (1975). BA, Wichita State University, 1969; JD, Washburn University, 1971.


Gass, Marcelle B., Assistant Professor of Business Education (1969). BS, University of Kansas, 1949; MS, Wichita State University, 1967; PhD, Kansas State University, 1975.


Gauthier, Don, Assistant Professor of Ceramics (1978). AA, Riverside City College, 1970; BFA, Utah State University, 1973; MFA, Wichita State University, 1976.

Gavin, Tom, Instructor and Director of Housing (1975). BS, University of Wisconsin at River Falls, 1971; MA, Ball State University, 1972.

George, M. Don, Adjunct Associate Professor of Health Education in College of Health Related Professions (1975). MD, George Washington University School of Medicine, 1956.

Gerhard, Armin, Instructor of German and Assistant Director of the Intensive English Language Program (1968). BA, University of Texas, 1966; MA, ibid., 1968. (On leave—academic year 1978-79)

Gibson, George H., Associate Professor of Opera Theater and Voice (1967). BM, University of Miami, 1956; MM, University of Texas, 1959; DMA, University of Southern California, 1971. (Sabbatical leave—second semester, 1978-79)

Girard, Sharon E., Assistant Professor of Music History and Literature (1976). BA, Mt. St. Mary's College, 1958; MA, ibid., 1961; PhD, University of California at Los Angeles, 1975.

Givner, David, Assistant Professor of Medicine and Interim Medical Director in Physician's Assistant (1973). BS, The Johns Hopkins University, 1925; MD, University of Maryland School of Medicine, 1929.


Gladhart, Stephen C., Assistant Professor of Physician's Assistant and Director of the Physician's Assistant Program (1974). BA, Wichita State University, 1969; MA, ibid., 1972; EdD, University of Kansas, 1977.

Cleason, Kenneth G., Professor of Educational Administration and Acting Director of Bureau of Educational Placement (1965). BA, Wichita State University, 1950; MA, Columbia University, 1952; EdD, ibid., 1964.

Goering, Jan Craig, Assistant Professor in the Library/Media Resources Center (1978). BA, University of Colorado, 1969; MBA, University of Nebraska-Lincoln, 1977.

Goering, Robert C., Clinical Associate of Medical Technology (1972). AB, Bethel College, 1948; MD, Escuela Nacional de Medicina, Universidad Nacional Autonomode Mexico Ciudad Universitario Mexico, 1951.

Goldenberg, Robert, Assistant Professor of Religion (1976). BA, Cornell University, 1963; MHL, Jewish Theological Seminary of America, 1966; PhD, Brown University, 1974.

Goodpasture, Carter, Adjunct Associate Professor of Health Education (1979). BS, Princeton University, 1932; MD, University of Chicago, 1936.


Gosman, Albert L., Professor of Mechanical Engineering and Associate Dean of College of Engineering (1967). BSME, University of Michigan, 1950; MSME, University of Colorado, 1955; PhD, University of Iowa, 1965.

Goudie, Andrea K., Associate Professor of English (1968). BA, University of Minnesota, 1962; MA, Indiana University, 1963; PhD, ibid., 1969.

Graham, Archie Richard, Professor and Chairperson of Department of Mechanical Engineering (1965). BSME, Kansas State University, 1957; MS, ibid., 1960; PhD, University of Iowa, 1966.

Graham, Gerald H., Professor of Administration (1967). BS, Northwestern State College, 1959; MSBA, ibid., 1960; PhD, Louisiana State University, 1968.

Graham, J. Keith, Professor and Chairperson of Department of Logopedics (1966). BS, Wayne State University, 1948; MA, ibid., 1951; PhD, Northwestern University, 1965.


Gray, H. Tom, Adjunct Clinical Associate of Physician’s Assistant (1973). MD, University of Arkansas, 1944.

Gray, James, Associate Professor of History (1963). AB, University of California at Los Angeles, 1954; PhD, ibid., 1966.


Green, Jess D., Clinical Associate of Medical Technology (1972). AB, University of Missouri at Kansas City, 1944; MD, George Washington University, 1950.

Greenberg, Gary, Associate Professor of Psychology (1966, 1970). BS, Brooklyn College, 1962; MA, Wichita State University, 1964; PhD, Kansas State University, 1970.

Gregg, Alvin L., Assistant Professor of English (1968). BA, Texas Tech University, 1956; MA, ibid., 1957; PhD, University of Texas, 1969.

Greywall, Mahesh S., Associate Professor of Mechanical Engineering (1969). BSc, University of Allahabad, India, 1953; BS, University of California at Berkeley, 1957; MS, ibid., 1959; PhD, ibid., 1962.


Gries, John C., Assistant Professor of Geology (1971). BS, University of Wyoming, 1962; MS, ibid., 1965; PhD, University of Texas, 1970.

Griffith, Kathryn, Professor and Chairperson of Department of Political Science (1954). BA, Wichita State University, 1947; MPA, Syracuse University, 1954; PhD, University of Chicago, 1967.

Gundersen, James N., Professor of Geology (1970). BS, University of Wisconsin, 1949; MA, University of California at Los Angeles, 1955; PhD, University of Minnesota, 1958.


Gythiel, Anthony P., Assistant Professor of English (1971). Diplôme d’Humanités, St. Stanislas, Poperinge, Belgium, 1950; BPh, Maison de Philosophie, Brussels, Belgium, 1953; MA in Theology, Theologicum Université de Louvain, 1956; MA, University of Detroit, 1966; PhD, ibid., 1971. (Sabbatical leave—academic year, 1978-79)

Haag, Barbara A., Associate Professor of Nursing (1976). BSN, College of Saint Teresa, 1954; MSN, Wayne State University, 1969; PhD, University of Maryland, 1976.

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Hackett, Donald W., Associate Professor of Administration and Director of Master of Business Administration Program (1973). BBA, University of Oklahoma, 1967; MBA, ibid., 1970; DBA, ibid., 1974.

Hageman, Mary J., Assistant Professor of Administration of Justice (1976). BA, Bowling Green State University, 1965; MA, ibid., 1966; PhD, Washington State University, 1977.

Hahn, Jerry Donald, Assistant Instructor of Guitar (1973).


Halstead, Helen L., Assistant Professor of Nurse Clinician (1970). BSN, University of Kansas, 1955; MEd, University of Minnesota, 1959.


Hardy, James Lynn, Professor and Chairperson of Department of Music Education (1965). BS in Ed, Southwest Missouri State University, 1948; MMEd, University of Kansas, 1956; EdD, ibid., 1969.

Harmon, Dorothy A., Instructor and Associate Director, Marcus Center for Continuing Education (1974). BA, Wichita State University, 1946.

Harms, Jane L., Assistant Professor of Nursing (1976). BSN, Wichita State University, 1973; MS, Texas Woman’s University, 1975.

Harms, Mark, Field Clinical Coordinator of the Physician’s Assistant Program (1977). BS, University of Kansas, 1974; BHS, Wichita State University, 1976.

Harmsberger, John L., Professor of History (1962). BA, Hamline University, 1948; MA, University of Minnesota, 1950; PhD, ibid., 1956.


Hartman, John J., Professor of Sociology (1968). BS, Southwest Missouri State University, 1961; MS, University of Missouri, 1963; PhD, ibid., 1966.

Harshorne, Timothy S., Assistant Professor of Personnel Services/Education (1978). BA, Grinnell College, 1970; MA, Colgate University, 1973; PhD, University of Texas, 1978.


Hay, Bryan S., Associate Professor of English (1965). BS, University of Rochester, 1958; PhD, ibid., 1969.

Haydon, Randall B., Distinguished Professor of Money and Banking in Department of Economics (1970). BBA, University of Massachusetts, 1954; MBA, ibid., 1958; PhD, University of Illinois, 1962.

Hayes, Michael T., Assistant Professor of Speech Communication (1975). BS, University of Kansas, 1959; MS, Emporia State University, 1962; PhD, University of Missouri, 1978.


Hays, William C., Associate Professor of Gerontology/Sociology and Director, University Gerontology Center and Project Director of Gerontology Training Grant (1973). BS, Ball State University, 1967; MA, ibid., 1968; PhD, University of Missouri, 1973.


Hecht, Sabrina M., Associate Professor of Mathematics (1950). AB, Pittsburg State University, 1939; MS, University of Michigan, 1945.

Heilmann, Charles E., Assistant Professor of Sociology and Administration of Justice (1965). BA, Washburn University, 1936; JD, ibid., 1939; MA, Wichita State University, 1964.


Herman, David T., Professor of Psychology (1949). AB, Indiana University, 1940; MA, ibid., 1942; PhD, ibid., 1947.

Herrin, Mary Louise, Administrative Assistant to Vice President for Business Affairs and Systems Analyst (1973). BBA, Wichita State University, 1972; MS, ibid., 1976.


Hill, K. Patrick, Assistant Professor of Administration (1978). BS, Oklahoma State University, 1956; MBA, ibid., 1961.

Ho, James C., Professor of Physics (1971). BS, National Taiwan University, 1959; MS, University of California at Berkeley, 1963; PhD, ibid., 1966.

Hoag, Gerald B., Associate Professor of English (1967). AB, Loyola University (New Orleans), 1951; MA, Tulane University, 1955; PhD, ibid., 1965.


Hogan, Linda, Assistant Professor of Medical Technology and Medical Technology Educational Specialist in Health Education Research and Development (1972). BA, Emporia State University, 1965; MT (ASCP), 1965; BB (ASCP), 1972; MEd, Wichita State University, 1977.

Holmer, Robert M., Professor and Chairperson of Department of Physical Education, Health and Recreation (1955). BS, University of Kansas, 1941; MS, ibid., 1948; PhD, University of Iowa, 1954.

Holmes, Lowell D., Professor of Anthropology and Associate Director of Research—University Gerontology Center (1959). BS, Northwestern University, 1950; PhD, ibid., 1957.


Homburger, Richard H., Professor of Accounting (1956). JD, University of Zurich, 1937; MS, Columbia University, 1946; CPA Certificate, West Virginia.

Hommetzheim, Donald L., Assistant Professor of Industrial Engineering (1976). BA, Friends University, 1965; MS, Wichita State University, 1970; PhD, University of Arkansas, 1975.


Houston, Martha P., Assistant Professor, Library (1968). BS, Kansas State University, 1945; ML, Emporia State University, 1968; MA, Wichita State University, 1976.


Hultgren, Myron K, Faculty Associate of Nurse Clinician (1976). BA, Wichita State University, 1963; MD, University of Kansas, 1968.

Hummel, Donald A., Associate Professor of Low Brass Instruments (1965). BA, Arizona State University, 1958; MM, Southern Illinois University, 1959; DMA, University of Missouri at Kansas City, 1976.

Humphrey, Bobbye J., Assistant Professor of Social Work and Assistant Dean of Faculties for Personnel (1968). AB, Friends University, 1948; MSW, University of Kansas, 1964.

Hunter, Bruce M., Instructor of Administration of Justice and Coordinator for the Western Regional Area (1977). BA, Syracuse University, 1972; MAJ, Wichita State University, 1977.


Hutcherson, Bernice, Assistant Professor of Social Work (1973). BA, Langston University, 1950; MSW, University of Kansas, 1969.

Hutchinson, John J., Associate Professor and Chairperson of Department of Mathematics (1976). BA, St. Benedict’s College, 1962; MA, University of Kansas, 1966; PhD, ibid., 1968.

Iacovetta, Ronald C., Associate Professor and Administrative Assistant to the Chairperson of Department of Administration of Justice (1973). BS, Colorado State University, 1965; MS, ibid., 1967; PhD, University of Connecticut, 1972.

Ingraine, Bruce D., Associate Professor of Secondary Education (1968). BA, San Francisco State College, 1954; MA, ibid., 1957; EdD, Arizona State University, 1968.

Ingrisano, Dennis R., Assistant Professor of Logopedics (1977). BS, De Paul University, 1969; MEd, Pennsylvania State University, 1971; PhD, Indiana University, 1978.

Irish, Jerry A., Associate Professor and Chairperson of Department of Religion (1975). BA, Cornell University, 1958; BD, Southern Methodist University, 1964; MA, Yale University, 1966; PhD, ibid., 1967.


Jabara, F. D., Professor of Business Administration (1949). BS, Oklahoma State University, 1948; MBA, Northwestern University, 1949; CPA Certificate, Kansas.

Jackson, Bill, Associate Professor of Graphic Design and Publications Designer in the Office of Information and Public Events (1970). Kansas City Art Institute, 1938.

Jakowatz, Charles V., Professor of Electrical Engineering and Dean of College of Engineering (1965). BSEE, Kansas State University, 1944; MSEE, ibid., 1947; PhD, University of Illinois, 1953.

James, Dessie Oliver, Assistant Professor of Student Personnel and Guidance (1974). BS, Texas Tech University, 1959; MEd, ibid., 1968; EdD, North Texas State University, 1975.


Janekseka, Galen M., Assistant Professor of Administration of Justice (1974). BA, University of Minnesota at Duluth, 1971; MS, Mankato State University, 1973; PhD, Iowa State University, 1975.

Jantze, Margaret L., Associate Professor and Chairperson of Department of Business Education (1965). BS, Union College, 1947; MEd, University of Nebraska, 1959; EdD, ibid., 1965.


Johansen, Juanita, Clinical Associate of Medical Technology (1972).

Johnnykutty, Thomas, Assistant Professor of Respiratory Therapy (1978). BS, Kerala University, 1958; MS, Gujaret University, 1963; PhD, Northeastern University, 1970.

Johns, Buddy Ava, Jr., Associate Professor of Mathematics (1964). BA, Friends University, 1957; MA, University of Kansas, 1960; PhD, ibid., 1964.

Johnson, Claradine, Assistant Professor of Educational Administration (1978). BSE, Bowling Green State University, 1943; ME, Wichita State University, 1962; Ed Sp, ibid., 1973; PhD, University of Kansas, 1974.

Johnson, Earl S., Adjunct Professor of Sociology (1976). AB, Baker University, 1918; MA, University of Chicago, 1932; PhD, ibid., 1941.

Johnson, Everett L., Associate Professor of Electrical Engineering (1971). BSEE, University of Kansas, 1962; MSEE, University of New Mexico, 1964; PhD, University of Kansas, 1969.

Johnson, John W., Jr., Associate Professor of Chemistry (1955). BA, Wichita State University, 1952; MS, ibid., 1953; PhD, University of Illinois, 1956.

Johnson, Clara Frances M., Assistant Professor, Library (1954). BA, Wichita State University, 1950; AMLS, University of Michigan, 1953.


Jones, John L., Assistant Instructor and Administrative Assistant/Accountant in Office of Research and Sponsored Programs (1976). BBA, Wichita State University, 1975.


Jones, W. James, Associate Professor of Clarinet (1969). BM and BSE, Ohio State University, 1960; MA, ibid., 1962; PhD, University of Iowa, 1970.

Jong, Mark M. T., Associate Professor of Electrical Engineering (1967). BSEE, National Taiwan University, 1960; MSEE, South Dakota School of Mines and Technology, 1965; PhD, University of Missouri, 1967.

Jordan, Donald E., Assistant Professor, Counselor and Director of Placement Center (1965). BA, Wichita State University, 1959; MEd, ibid., 1962.

Jovanovic, Milan K., Professor of Mechanical Engineering (1968). Diploma, Ing. (ME), University of Belgrade, 1938; Diploma, Physics, ibid., 1945; MS, Northwestern University, 1954; PhD, ibid., 1957.


Kalton, Michael Charles, Assistant Professor of Religion (1978). AB, St. Louis University, 1965; AM, ibid., 1965; PhD, Harvard University, 1977.


Kasten, Roger N., Professor of Logopedics (1971). BS in Ed, Bowling Green State University, 1955; MA, ibid., 1956; PhD, Northwestern University, 1964.


Kear, Dennis J., Assistant Professor of Elementary Education (1978). BSE, Emporia State University, 1970; MSE, ibid., 1975.


Kelly, Francis L., Assistant Professor of Speech Communication (1965). BA, De Paul University, 1954; MT, University of Illinois, 1959; PhD, Ohio State University, 1972.


Kendall, Denise, Faculty Associate of Physical Therapy (1976). BS in Physical Therapy,
Kansas State University, 1961; Certificate in Physical Therapy, University of Kansas, 1961.


Kenyon, Grant Y., Professor of Psychology (1955). BS, Wichita State University, 1949; MA, ibid., 1951; PhD, University of Rochester, 1957.


Killian, Donald G., Assistant Professor of Mathematics (1958). BS, Southeast Missouri State University, 1952; ME, University of Missouri, 1956; AM, ibid., 1958.

Kiralyfalvi, Bela, Associate Professor of Speech Communication and Theater and Chairperson of Department of Speech Communication (1973). BA, Phillips University, 1963; MA, University of Kansas, 1965; PhD, ibid., 1972.


Kiskadden, Robert M., Professor of Studio Arts and Assistant Dean of College of Fine Arts (1949). BFA, University of Kansas, 1947; MA, Ohio Wesleyan University, 1949.


Kleffner, Frank R., Adjunct Professor of Logopedics (1976). BS, University of Wisconsin, 1949; MS, ibid., 1951; PhD, ibid., 1952.


Kliewer, Dean, Adjunct Assistant Professor of Psychology (1975). BA, Tabor College, 1955; MA, Fresno State College, 1957; PhD, University of Oregon, 1962.

Klingsporn, Melvern J., Assistant Professor of Psychology (1965). AB, University of Nebraska, 1957; MA, ibid., 1962; PhD, ibid., 1965.

Knapp, Robert K., Associate Professor of Psychology (1961). BA, Kent State University, 1954; MA, ibid., 1956; PhD, Michigan State University, 1960.

Kneil, Thomas R., Assistant Professor of Logopedics (1967). AB, Bowdoin College, 1955; MS, Syracuse University, 1960; PhD, University of Iowa, 1972.

Knight, Dorothy M., Assistant Professor, Education Librarian (1966). BEd, Illinois State University, 1936; MS, Emporia State University, 1961; MA, Wichita State University, 1976.


Konek, Carol W., Assistant Professor of Women’s Studies (1969). BS, University of Kansas, 1961; MA, Wichita State University, 1968; PhD, University of Oklahoma, 1977.

Koppehaver, John H., Assistant Professor of Spanish (1966, 1972). BA, Wichita State University, 1964; MA, University of Iowa, 1966; PhD, ibid., 1974.

Krebs, Julie A., Faculty Associate of Nurse Clinician (1976).
Kukral, Dean K., Assistant Professor of Mathematics (1968). AB, Wabash College, 1964; AM, Indiana University, 1966; PhD, ibid., 1972.
Langley, William M., Assistant Professor of Biological Sciences (1975). BA, Earlham College, 1965; MS, Michigan State University, 1968; PhD, Arizona State University, 1978.
Lazar, Harry, Adjunct Associate Professor of Health Education (1972). BS, Lewis Institute, 1931; MD, University of Illinois, 1935.
Lee, Carla Ann, Assistant Professor and Chairperson of Department of Nurse Clinician (1974). BSN, University of Kansas, 1967; MA, Wichita State University, 1972; EdS, ibid., 1975.
Leipold, William D., Faculty Associate of Community Health Education (1976). BA, Centenary College, 1956; MA, Louisiana State University, 1958; PhD, University of North Dakota, 1963.
Leslie, John H., Jr., Adjunct Research Professor of Engineering (1962, 1977). BSIE, Wichita State University, 1961; MSME, ibid., 1964; PhD, Oklahoma State University, 1972.
Lewallea, Sterling B., Assistant Professor of Industrial Education (1974). BA, Wichita State University, 1964; MS, Pittsburg State University, 1969; PhD, Colorado State University, 1978.
Lewis, Tom D., Assistant Professor of Accounting (1977). BA, University of Nebraska, 1968; MBA, ibid., 1972.
Liles, Donald, Assistant Professor of Industrial Engineering (1978). BS, University of Texas, 1970; MS, ibid., 1974; PhD, ibid., 1978.
Lindsley, Sara Rodewald, Instructor of German (1968). BS, Kansas State University, 1963; MA, University of Kansas, 1968.
Lindsted, Robert D., Assistant Professor of Mechanical Engineering (1971). BS, Wichita State University, 1969; MS, University of Vermont, 1971; PhD, University of Oklahoma, 1977.
Livingston, Alan, Assistant Professor and Instructional Developer (1978). BA, University of Utah, 1974; PhD, Brigham Young University, 1978.
Loper, Gerald D., Jr., Associate Professor of Physics (1964). BA, Wichita State University, 1959; MS, Oklahoma State University, 1962; PhD, ibid., 1964.
Lowe, Roger D., Assistant Professor of Accounting and Vice President for Business Affairs (1964). BSBA, Pittsburg State University, 1960; CPA Certificate, Kansas.
Lucas, Walter A., Associate Professor of Elementary Education (1951). BE, State University of New York College at Fredonia, 1941; MS, State University of New York at Albany, 1947; EdD, University of Colorado, 1949.
Ludwick, Robert, Field Clinical Coordinator in the Physician’s Assistant Program (1978). BA, Wichita State University, 1974; BHS, ibid., 1977.
Lyman, David A., Adjunct Assistant Professor of Administration (1978). BA, Dakota Wesleyan University, 1968; MA, University of Nebraska, 1971; PhD, ibid., 1974.
Lynn, Frank Richardson, Instructor of Accounting (1978). BSBA, Central Missouri State University, 1969; MBA, ibid., 1976; CPA certificate, Kansas and Missouri.
MacLean, H. Alan, Assistant Professor of Mathematics (1974). BS, Pacific University, 1968; MS, Portland State University, 1970; PhD, Kansas State University, 1974.


Magelli, Paul J., University Professor and Dean of Fairmount College of Liberal Arts and Sciences (1969). AB, University of Illinois, 1959; MS, ibid., 1960; PhD, ibid., 1965.

Mallory, J. William, Assistant Professor of Philosophy (1965). BA, Northwestern University, 1957; MA, ibid., 1962; PhD, ibid., 1970.

Malzahn, Don Edwin, Assistant Professor of Industrial Engineering (1973). BS, Oklahoma State University, 1965; MS, ibid., 1969; PhD, ibid., 1975. (Leave of absence—academic year, 1978-79)

Mandell, Almer Joseph, Assistant Professor of Philosophy (1976). BA, Trinity College, 1972; MA, Vanderbilt University, 1974; PhD, ibid., 1978.


Mann, Patti B., Instructor of Health Administration and Education (1974). BS, Wichita State University, 1973; MS, University of Missouri, 1974.

Marks, Bernard J., Professor of Economics (1969). BSC, Drake University, 1941; MS, Iowa State University, 1949; PhD, University of Minnesota, 1960.

Marsh, Henry O., Adjunct Assistant Professor of Health Education in Physician’s Assistant (1973). BA, Elmhurst College, 1939; MD, University of Illinois School of Medicine, 1943.

Martin, Keith A., Faculty Associate of Dental Hygiene (1976). DDS, University of Missouri at Kansas City, 1967.

Marymount, Jesse B., Jr., Clinical Associate of Medical Technology (1972). BA, Syracuse University, 1949; MD, ibid., 1954.

Mason, Caroline, Assistant Professor of Nursing (1978). BA, Augustana College, 1972; MA, University of Iowa, 1976.


Mathis, William E., Associate Professor of Music Education, Coordinator of Graduate Music Studies and Chairperson of Department of Performance (1969). BS, Brigham Young University, 1957; MS, ibid., 1961; PhD, University of Michigan, 1969.


Matron, Pierre Étienne, Adjunct Clinical Associate of Physician’s Assistant (1975). MD, University of Paris, 1939.

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May, Phillip T., Professor of Accounting (1974). BA, Lawrence University, 1957; MBA, Indiana University, 1959; PhD, University of Wisconsin, 1967.


McBride, John D., Assistant Professor and Chairperson of Department of Anthropology (1965). AB, University of Kansas, 1953; LLB, ibid., 1955; PhD, Southern Illinois University, 1971.

McCarten, John B., Assistant Professor of Chemistry (1964). BS, Creighton University, 1958; MS, ibid., 1960; PhD, University of Iowa, 1964.


McCormick, Guy Montieth, Instructor of Administration and Assistant to the Director, MBA Program (1972). BBA, Wichita State University, 1970; MBA, ibid., 1972.

McCroskey, Robert Lee, Professor of Logopedics (1967). BS in Ed, Ohio State University, 1949; MA, ibid., 1952; PhD, ibid., 1956.
McDougall, Gerald S., Assistant Professor of Economics (1974). BS, California State University, Chico, 1967; BA, ibid., 1968; MA, Claremont Graduate School, 1973; PhD, ibid., 1974. (Leave of absence, 1977-78.)

McFadden, Geraldine, Assistant Professor of Nursing (1978). BSN, Fort Hays State College, 1971; MS, Texas Woman's University, 1975.

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McKeen, Jerome Black, Assistant Professor of Administration of Justice (1978). BA, Florida Atlantic University, 1975; BAA, ibid., 1975; MS, Florida State University, 1976; PhD, ibid., 1978.

McKenna, Michael C., Assistant Professor of Elementary Education (1977). BA, University of Arkansas, 1970; MA, ibid., 1972; MEd, University of Missouri, 1975; PhD, ibid., 1977.

McLuen, Peggy F., Assistant Professor of Dance (1966). BA, Wichita State University, 1947; ME, ibid., 1960.

Meabon, David L., Dean of Student Life and Services and Associate Professor of Student Personnel and Guidance (1976). BS, West Virginia State College, 1964; MEd, University of South Carolina, 1971; PhD, Florida State University, 1973.

Merkis, Bernie J., Assistant Professor of Psychology (1975). AB, Ft. Hays State University, 1966; MS, ibid., 1968; PhD, University of Tennessee, 1971.


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Mickel, Howard A., Assistant Professor of Religion (1965). BA, University of Nebraska, 1949; MA, Northwestern University, 1951; MTh, Lutheran Theological Seminary, Gettysburg, 1953; PhD, Claremont Graduate School, 1969.

Milbrandt, Lanny, Assistant Professor of Art Education (1978). BS, Mankato State University, 1961; MS, ibid., 1967; PhD, Arizona State University, 1977.

Miller, Carol Jean, Assistant Instructor, University Preschool Program (1975). BA in Ed, Wichita State University, 1975.

Miller, Glendon B., Associate Professor of Biological Sciences (1968). BA, Southern Illinois University, 1960; MA, ibid., 1962; PhD, University of Missouri, 1967.

Miller, Glenn W., Professor of Economics (1969). BEd, Southern Illinois University, 1934; AM, University of Illinois, 1935; PhD, ibid., 1939.

Miller, John W., Associate Professor of Elementary Education and Director of the Reading Center (1974). BS, Ohio University, 1969; MS, Northern Illinois University, 1972; PhD, Purdue University, 1974.


Miller, Margaret M., Instructor of Piano (1968). BM, Wichita State University, 1967.

Miller, Robert E., Assistant Professor of Administration (1976). BSEE, University of Kansas, 1964; MS, Wichita State University, 1967; MBA, University of Kansas, 1972; PhD, ibid., 1975.

Miller, William E., Associate Professor of Logopedics (1949). BA, Wichita State University, 1940; MA, ibid., 1947; PhD, Northwestern University, 1950.
Millett, John H., Professor of Political Science (1957). AB, Beloit College, 1940; MA, University of Cincinnati, 1942; PhD, University of Illinois, 1950.

Millett, Nancy C., Associate Professor of Secondary Education (1968). BA, University of Rochester, 1949; MA, ibid., 1951; EdD, University of Colorado, 1972.

Mills, Everald E., Associate Professor of Computer Science and Chairperson of Computer Science Program (1971). BS, University of Nebraska, 1962; MS, Washington State University, 1968; PhD, ibid., 1972.

Mills, Tony, Adjunct Associate Professor of Dental Hygiene (1970). DDS, University of Missouri at Kansas City, 1955.


Mitchusson, Linda C., Assistant Professor of Accounting (1977). BS, East Central University, 1968; MBA, University of Arkansas, 1969; PhD, ibid., 1975.

Moddrell, Joe, Adjunct Assistant Professor of Administration (1978). BS, University of Kansas, 1949.

Mohr, Phillip J., Associate Professor of Speech Communication (1946, 1950, 1968). BA, Wichita State University, 1946; MA, ibid., 1947; PhD, Ohio State University, 1960.

Moler, Penna R., Assistant Professor of French (1967). BA, University of Kansas, 1964; MA, ibid., 1966; PhD, ibid., 1976.

Moenig, Gretta, Associate Professor of Nursing (1978). BSN, College of Saint Theresa, 1957; MSN, Catholic University, 1965; PhD, University of Minnesota, 1975.

Moore, Jesse C., Assistant Professor of Chemistry (1978). BS, Oklahoma State University, 1964; MS, ibid., 1968; PhD, Kansas State University, 1977.

Moore, Stephen, Assistant Professor and Supervising Dentist in Dental Hygiene (1976). DDS, University of Missouri at Kansas City, 1974.


Morgan, Robert, Assistant Professor of Art Education (1978). BA, University of Redlands, 1964; EdM, Northeastern University, 1968; MFA, University of Massachusetts, 1975; PhD, New York University, 1978.


Mullikin, Margaret D., Assistant Professor of Sociology and Associate Director of Services—University Gerontology Center (1967). BA, Wichita State University, 1935; MA, ibid., 1958.

Murphy, Dwight D., Associate Professor of Administration (1967). BSL, University of Denver, 1957; JD, ibid., 1959.

Murphy, James M., Distinguished Professor of Bank Management in Department of Administration (1968). BS, Indiana University, 1943; MBA, ibid., 1948; DBA, ibid., 1959.


Myers, Marilyn S., Assistant Professor, Library and Coordinator of Collection Development (1968). BA, Kansas State University, 1966; MS, University of Illinois, 1968.


Najim, Harry L., Adjunct Assistant Professor of Administration (1977). BA, University of Kansas, 1957; JD, Southern Methodist University School of Law, 1972.

Nance, Donald W., Associate Professor and Director of Counseling Service (1968). BA, University of Redlands, 1964; MA, University of Iowa, 1967; PhD, ibid., 1968.

Needles, Audrey, Associate Professor of Speech Communication and Theater (1965). AB, University of Denver, 1947; MA, ibid., 1948.


Nelson, Eunice D., Assistant Professor of Educational Psychology (1974). BA, Wichita State University, 1958; MEd, ibid., 1966.
Nelson, F. William, Professor of English (1947). AB, University of Texas, 1943; AM, Columbia University, 1949; PhD, University of Oklahoma, 1957.

Nelson, Gary, Field Clinical Coordinator of the Physician's Assistant Program (1977).


Neville, Anthony E., Assistant Professor and Director of Communications and Editor of Alumni Publications (1975). BA, Princeton University, 1957.


Nickel, Kenneth N., Professor of Secondary Education and Associate Dean of College of Education (1956). BA, Wichita State University, 1936; MA, University of Kansas, 1947; EdD, University of Colorado, 1958.

Nielsen, Carl C., Associate Professor and Chairperson of Department of Administration (1968). BS, Dana College, 1956; MA, University of Nebraska, 1963; PhD, ibid., 1966.

Nishimura, Allan M., Associate Professor of Chemistry (1973). BS, University of California at Berkeley, 1968; PhD, University of California at Davis, 1972.


Norris, Roy H., Professor of Electrical Engineering (1959). BS, Wichita State University, 1959; MS, ibid., 1962; PhD, Oklahoma State University, 1972.

Nutter, Richard, Clinical Associate of Respiratory Therapy (1973).

O'block, Robert L., Assistant Professor of Administration of Justice (1977). BS, Pittsburg State University, 1972; MS, ibid., 1973; EdS, ibid., 1974; PhD, Kansas State University, 1976.


O'Loughlin, John B., Associate Professor of Electrical Engineering and Director of Digital Computing Center (1967). BSEE, Massachusetts Institute of Technology, 1954; MSEE, ibid., 1956.

Osborne, Susan K., Director of Small Business Institute; Research Associate, Center for Business and Economic Research; and Instructor of Administration (1971). BBA, Wichita State University, 1969; MS, ibid., 1971.


Palmer, Duncan, Instructor of Accounting (1975). BS, United States Military Academy, West Point, 1944; MS, Wichita State University, 1975.

Paolillo, Joseph G., Assistant Professor of Administration (1977). BS, Ohio University, 1969; MBA, University of Delaware, 1974; PhD, University of Oregon, 1977.

Parcel, Iris Joy, Instructor of Nurse Clinician (1976) BSN, University of Nebraska at Omaha, 1966.

Park, F. Wesley, Faculty Associate of Dental Hygiene (1976). BA, Wichita State University, 1934; DDS, University of Missouri at Kansas City, 1937.

Park, William W., Faculty Associate of Dental Hygiene (1976). BS, University of Kansas, 1965; DDS, Baylor University, 1969.
Parker, Marilyn E., Assistant Professor of Nursing (1977). BS, Incarnate Word College, 1965; MS, Catholic University of America, 1969.

Parris, Wayne L., Associate Professor of Anthropology (1968). AB, McPherson College, 1944; BD, Bethany Theological Seminary, 1947; MA, Wichita State University, 1953; MA, University of Colorado, 1966; PhD, ibid., 1971.


Paske, Gerald H., Associate Professor of Philosophy (1967). BS, University of Wisconsin, 1958; MS, ibid., 1962; PhD, ibid., 1964. (Sabbatical leave — second semester, 1979)

Paulson, Merle J., Assistant Professor, Library and Head of Acquisitions Department (1962). BA, Emporia State University, 1953; BS in Ed, ibid., 1954; MA, University of Denver, 1962.

Payne, Joe Dean, Associate Professor of Elementary Education (1967). BA, Texas Tech University, 1950; MEd, ibid., 1953; EdD, ibid., 1963.


Pearson, Charles G., Associate Professor and Chairperson of Department of Journalism (1977). AB, University of Kansas, 1942; MA, ibid., 1953.

Pennington, Katherine, Adjunct Clinical Associate of Physician’s Assistant (1973). AB, Friends University, 1937; MD, University of Kansas, 1943.


Perline, Martin M., Professor of Economics (1965). BA, Arizona State University, 1960; MA, Ohio State University, 1962; PhD, ibid., 1965.

Perry, Jack, Assistant Professor of Medical Technology (1977). BS, Kansas State University, 1966; PhD, ibid., 1970.

Petree, James H., Professor and Dean of Continuing Education (1973). BA, Central State University, 1955; MEd, University of Oklahoma, 1956; EdD, ibid., 1970.

Pettersen, Kenneth C., Assistant Professor of Spanish (1965). BA, Wichita State University, 1964; MA, University of Wisconsin, 1965.


Pfannestiel, Maurice, Associate Professor of Economics (1966). BA, Fort Hays State University, 1960; MS, Oklahoma State University, 1966; PhD, ibid., 1967.

Pfeifer, H. Daniel, Assistant Professor, Counselor and Associate Dean of University College (1969). BA, Wichita State University, 1959; MEd, ibid., 1964; PhD, University of Northern Colorado, 1973.


Piper, Howard, Adjunct Assistant Professor of Administration (1978). BS, Harvard University, 1939.


Plaskow, Judith E., Assistant Professor of Religion (1976). BA, Clark University, 1968; MPhil, Yale University, 1971; PhD, ibid., 1975.

Platt, George M., Associate Professor of Political Science and Director of Office of Planning and Institutional Studies (1969). BS, South Dakota State University, 1953; MA, Syracuse University, 1955; PhD, ibid., 1962.


Poland, Leo A., Associate Professor of Accounting (1958). BS, University of Kansas, 1947; MBA, Harvard University, 1948; DBA, Indiana University, 1962.


Powell, Dorothy H., Assistant Professor of Journalism (1977). BA, University of Texas, 1951; MA, Texas Tech University, 1973.
Powell, Jackson O., Professor of Psychology (1950). BS, Southeastern Oklahoma State University, 1941; MS, Syracuse University, 1947; PhD, ibid., 1950.

Quantic, Diane D., Assistant Professor of English Composition (1973). BA, Kansas State University, 1962; MA, ibid., 1966; PhD, ibid., 1971.

Raber, Merrill, Adjunct Assistant Professor of Social Work (1975). BS, Goshen College, 1956; MSW, University of Southern California, 1962.

Rand, David, Assistant Professor of Educational Psychology (1973). BA, University of Northern Iowa, 1965; MA, Purdue University, 1970; PhD, ibid., 1973.

Rappaport, Allen, Associate Professor of Administration (1966). BS, University of South Carolina, 1961; MBA, ibid., 1962; PhD, University of Texas, 1968.

Rath, Gerald A., Associate Professor and Director of Engineering Technology (1976). BSEE, Iowa State University, 1955; MSE, Purdue University, 1963.


Reals, William J., Clinical Associate of Medical Technology (1972). BS, Creighton University, 1944; MD, ibid., 1945; MS (Med), ibid., 1949.

Rector, Larry, Assistant Professor and Associate Director of Financial Aids (1967). BA, Southwestern College, 1962; MEd, Wichita State University, 1967.

Reed, Leslie L., Assistant Professor of Engineering Technology (1977). BS, Oklahoma State University, 1975.

Reed, Paul E., Associate Professor of Piano (1966). BM, Drake University, 1956; MM, ibid., 1957.

Reif, Martin A., Professor of History and Associate Dean of Fairmount College of Liberal Arts and Sciences (1959). AB, University of California at Los Angeles, 1954; PhD, ibid., 1960.


Reno, Judith M., Faculty Associate of Nursing (1976).


Rhatigan, James J., Associate Professor of Education, Vice President for Student Affairs and Dean of Students (1965). BA, Coe College, 1957; MA, Syracuse University, 1959; PhD, University of Iowa, 1965.


Richardson, William H., Associate Professor of Mathematics (1962). AB, California State University, Chico, 1959; MS, Iowa State University, 1961.

Richardson, William Harrison, Assistant Professor of History (1978). BA, University of California, Santa Barbara, 1969; MA, ibid., 1970; PhD, ibid., 1976.

Rieber, Betty, Faculty Associate of Community Health Education (1976).

Riemer, Jeffrey W., Assistant Professor of Sociology (1974). BS, University of Wisconsin-Milwaukee, 1970; MS, ibid., 1971; PhD, University of New Hampshire, 1974.


Ritchie, Gisela F., Associate Professor of German (1965). MA, Free University of Berlin, 1952; PhD, University of Michigan, 1965. (Sabbatical leave—first semester, 1978)
Roberts, Daniel K., Adjunct Professor of Health Education and Adjunct Professor of Physician’s Assistant (1973). AB, Nebraska Wesleyan University, 1959; MD, University of Nebraska College of Medicine, 1961; PhD, ibid., 1963.


Robertson, Josephine Ann, Instructor of Nursing (1973). BS in Nursing, St. Louis University, 1956; MEd, Wichita State University, 1972.

Robinson, Charlene, Faculty Associate of Nurse Clinician (1976). BSN, Creighton University, 1955.

Rodenberg, Sidney D., Professor of Microbiology and Health Sciences and Dean of College of Health Related Professions (1976). AB, Washington University, 1948; AM, ibid., 1950; PhD, ibid., 1953.


Rodgers, Ben F., Associate Professor and Chairperson of Philosophy (1966). BA, University of Tennessee, 1958; MAT, Vanderbilt University, 1961; MA, Indiana University, 1966; PhD, ibid., 1970.

Rogers, Ethel Elizabeth, Assistant Professor of Mathematics (1958). BS, Kansas State University, 1946; MA, Northwestern University, 1950; ML, Emporia State University, 1973.


Roskam, Alan D., Adjunct Assistant Professor of Administration (1978). BA, Wichita State University, 1967; MA, ibid., 1968; PhD, University of Missouri-Columbia, 1975.


Roundy, Harry D., Professor of Biological Sciences (1963). BA, University of Virginia, 1952; MS, University of Pittsburgh, 1960; PhD, ibid., 1962.


Rozzelle, Robert, Coordinator of Freshman Advising and Advisor and Assistant Professor University College (1978). BA, University of New York, Cortland, 1966; MEd, Ohio University, 1967.


Saalmann, Dieter, Associate Professor of German (1971). BA, Northwestern State University of Louisiana, 1963; MA, The Johns Hopkins University, 1965; PhD, Washington University, 1970.

Saeed, Mohammad Arshad, Assistant Professor of Physician’s Assistant (1976). MBBS, Nishtar Medical College, Pakistan, 1966.

Sage, Jack D., Adjunct Assistant Professor of Administration (1976). BA, Western Michigan University, 1967; JD, Washburn University, 1972.

St. John, Richard W., Associate Professor of Ceramics (1969). BFA, Kansas City Art Institute, 1967; MFA, Alfred University, 1969.
Santhanam, Viswanathan, Assistant Professor of Computer Science (1975). B Tech, Indian Institute of Technology, Kanpur, India, 1971; PhD, Ohio State University, 1975.

Santos, Bienvenido N., Professor of Creative Writing and Distinguished Writer-in-Residence (1973). BSE, University of the Philippines, 1932; MA, University of Illinois, 1942.

Sarachek, Alvin, Distinguished Professor of Natural Sciences (1958). BA, University of Missouri at Kansas City, 1948; MA, ibid., 1950; PhD, Kansas State University, 1958.


Savaiano, Eugene, Professor of Spanish and Chairperson of Department of Romance Languages (1946). BS in Ed, Emporia State University, 1936; MS, ibid., 1937; PhD, University of Chicago, 1948.

Schad, Jasper G., Professor of Library Science and Director of Libraries and Media Resources Center (1971). BA, Occidental College, 1954; MA, Stanford University, 1957; MLS, University of California at Los Angeles, 1961.

Schaible, Max A., Assistant Professor of Journalism and Director of Information and Public Events (1970). BA, University of Colorado, 1957.

Schiebold, John, Assistant Professor of Studio Arts (1978). BFA, Brigham Young University, 1968; MFA, University of Hartford, 1970.

Schlesier, Karl, Professor of Anthropology (1962). PhD, University of Bonn, 1956.

Schlicher, John E., Adjunct Clinical Associate of Physician’s Assistant (1973). BA, University of Northern Iowa, 1962; MD, University of Iowa, 1966.


Schneider, Philip H., Assistant Professor of English (1967). BA, State University of New York College at Oneonta, 1965; MFA, University of Iowa, 1967.


Schott, Rex, Trainer in Women’s Athletics (1971). BA, Wichita State University, 1970.


Schrag, Robert L., Professor of Electrical Engineering (1957). BSEE, Kansas State University, 1945; MSEE, California Institute of Technology, 1946; PhD, Pennsylvania State University, 1954.

Schriefer, Lynn David, Assistant Professor of Nursing (1976). BA, Hastings College, 1972. MSN, University of Texas at Austin, 1975.

Schroeder, Barbara, Faculty Associate of Community Health Education (1977). BSN, University of Colorado, 1957.

Schuermann, Allen C., Jr., Associate Professor of Industrial Engineering (1971). BA, University of Kansas, 1965; MS, Wichita State University, 1968; PhD, University of Arkansas, 1971.

Schule, Donald K., Associate Professor of Sculpture (1967). BA, University of Minnesota, 1964; MFA, ibid., 1967. (Leave of absence—academic year, 1978-79)

Schultz, Douglas, Assistant Professor of Geology (1978). BS, Baldwin-Wallace College, 1972; MS, University of Oklahoma, 1975; PhD, University of South Carolina, 1978.

Schunk, John F., Assistant Professor of Speech, Communication and Director of Forensics (1976). BA, University of Illinois, 1964; MA, ibid., 1965; PhD, ibid., 1967.

Schuster, Eleanor A., Associate Professor of Nursing and Director of Graduate Nursing Education (1975). BS, University of San Francisco, 1957; MS, University of California, San Francisco, 1965; DNS, ibid., 1973.

Schwartzhoff, Robert H., Assistant Professor of Biological Sciences (1976). BS, University of Wisconsin, 1969; MS, Iowa State University, 1974; PhD, ibid., 1976.

Scriven, Nancy L., Assistant Professor of Music Education (1967). BME, Wichita State University, 1952; MME, ibid., 1966.


Sevart, John B., Assistant Professor of Mechanical Engineering (1960). BS, Wichita State University, 1960; MS, ibid., 1962.


Shanmugam, Sam Kumarasamy, Associate Professor of Electrical Engineering (1973). BE, Madras University, India, 1964; ME, Indian Institute of Science, India, 1966; PhD, Oklahoma State University, 1970. (Leave of Absence—spring 1979)

Shannon, Jack T., Assistant Professor of Continuing Education and Director, Marcus Center for Continuing Education (1974). BA, Southwestern Oklahoma State University, 1961; MEd, University of North Dakota, 1963; PhD, University of Oklahoma, 1973.

Sharp, Douglas, Associate Professor of Accounting and Dean of College of Business Administration (1969). BBA, University of Oklahoma, 1961; MBA, ibid., 1963; PhD, University of Missouri, 1969; CPA Certificate, Oklahoma.


Shawver, Martha M., Assistant Professor and Chairperson of Department of Nursing (1975). BSN, Eastern Mennonite College, 1965; MA in Nursing, University of Iowa, 1974.

Sheffield, James F., Assistant Professor of Political Science (1974). BA, Mississippi State University, 1969; MS, Florida State University, 1970; PhD, ibid., 1973.


Sherman, Dorothy M., Professor of Student Personnel and Guidance (1964). BA, University of Oregon, 1932; MA, ibid., 1934; PhD, Ohio State University, 1945.


Singhal, Ram P., Assistant Professor of Chemistry (1974). BSc, University of Lucknow, India, 1958; MSc, ibid., 1960; DEA, Université de Lille, France, 1964; PhD, ibid., 1967.


Slingerland, F. Yvonne, Assistant Professor of Physical Education (1967). BS, Fort Hays State University, 1954; MS, ibid., 1964.

Small, Blanche L., Assistant Professor, Library (1966). AB, Fort Hays State University, 1939; MS, Emporia State University, 1964.


Smith, Bert L., Professor of Aeronautical Engineering (1966). BSME, University of Missouri at Rolla, 1953; MSME, ibid., 1960; PhD, Kansas State University, 1966.
Smith, Evelyn J., Assistant Instructor of Nurse Clinician (1976).
Smith, John P., Clinical Associate of Medical Technology (1972). AB, Emporia State University, 1962; MT (ASCP), 1962; M (ASCP), 1967.
Smith, R. V., Professor of Mechanical Engineering (1971). BSME, University of Colorado, 1948; MSME, ibid., 1951; MS, University of Utah, 1957; PhD, Oxford University, 1968.
Smith, Robert M., Assistant Professor of Speech Communication and Associate Dean of Fairmount College of Liberal Arts and Sciences (1968). BA, Wichita State University, 1967; MA, Ohio University, 1968; PhD, Temple University, 1976.
Snyder, Jacqueline J., Assistant Professor and Assistant Vice President for Academic Affairs (1975). BA, College of St. Catherine, 1963; MA, Indiana University, 1966; DA, University of Oregon, 1971.
Snyder, James J., Assistant Professor of Psychology (1977). BA, Loras College, 1968; MA, Southern Illinois University, 1974; PhD, ibid., 1977.
Snyder, Melvin H., Jr., Professor of Aeronautical Engineering (1947). BSME, Carnegie-Mellon University, 1947; MS, Wichita State University, 1950; PhD, Oklahoma State University, 1967.
Sobin, Anthony G., Assistant Professor of English (1970). BA, Tulane University, 1966; MFA, University of Iowa, 1969; PhD, University of Utah, 1975.
Sojka, Gregory, Assistant Professor of American Studies (1978). BA, State University College of New York at Fredonia, 1971; MA, Indiana University, 1974; PhD, ibid., 1975.
Soper, Fred J., Associate Professor and Chairperson of Department of Accounting (1960, 1963). BS, University of Kansas, 1955; MBA, Wichita State University, 1962; CPA Certificate, Kansas.
Sowards, J. Kelley, Distinguished Professor of Humanities (1956). BA, Wichita State University, 1947; MA, University of Michigan, 1948; PhD, ibid., 1952.
Spangler, Eugene C., Associate Professor of Speech Communication and Director of Theater Services (1939). BM, Wichita State University, 1939; MFA, University of Iowa, 1950.
Standifer, Daryl E., Biomedical Communications Service Manager in Health Education and Development (1975). BFA, Wichita State University, 1974.
Stanga, John E., Jr., Associate Professor of Political Science (1968). BA, Southeastern Louisiana University, 1961; MA, Louisiana State University, 1963; PhD, University of Wisconsin, 1971.
Stene, Edwin O., Visiting Professor of Political Science (1978). BA, University of Minnesota, 1923; MA, ibid., 1929; PhD, ibid., 1931.
Stephens, Frances A., Associate Professor of English (1970). BA, Texas A&I University, 1956; MA, University of Texas, 1967; PhD, ibid., 1970.
Stevens, Mary Martha, Assistant Professor of Dental Hygiene and Interim Chairperson of Department of Dental Hygiene (1972, 1977). BS, University of Missouri at Kansas City, 1967; MS, Kansas State University, 1975.
Stover, Cheryl L., Instructor of Nursing (1972). BSN, Case Western Reserve University, 1969; MS, University of Colorado, 1972.


Stumpfhauser, Laszlo, Associate Professor of Health Education (1972). BA, Montana State University, 1959; BS, University of Kansas, 1961; MS, Emporia State University, 1964; PhD, University of Toledo, 1969.

Sudermann, Frederick, Assistant Professor of Political Science and Director of Research and Sponsored Programs (1964). BA, Wichita State University, 1958; MA, ibid., 1960.

Sugerman, Richard A., Assistant Professor of Biological Sciences (1975). BA, California State University at San Diego, 1967; MS, University of New Mexico, 1971; PhD, ibid., 1975.


Swanson, Janis, Clinical Associate of Medical Technology (1972). BA, Wichita State University, 1958; MT (ASCP), 1959.

Sweet, George H., Professor of Biological Sciences (1966). BS, Wichita State University, 1960; MA, University of Kansas, 1962; PhD, ibid., 1965.

Swney, Arthur B., Professor of Administration (1968). BS, University of Illinois, 1947; MSW, ibid., 1949; PhD, University of Houston, 1958.

Taggart, Thoburn, Jr., Assistant Professor, Library (1962). BA, University of the South, 1953; MA, George Peabody College for Teachers, 1958.

Taheer, Syed M. A., Assistant Professor of Physics (1976). BA, Dacca University, 1964; MS, ibid., 1966; MA, California State University, Long Beach, 1970; PhD, Washington State University, 1974.

Taylor, Richard J., Clinical Associate of Medical Technology (1972). BA, University of California, 1944; MD, Creighton University, 1949.

Taylor, Ruth S., Clinical Associate of Medical Technology (1972). BSAB, Northeast Missouri State Teachers College, 1945; MD, Creighton University, 1949; MPh, Harvard University, 1954.


Teall, Mary Jane Woodard, Assistant Professor of Speech Communication and Theater (1946). BS, Northwestern University, 1933; MA, ibid., 1937.

Tejeda, Antoinette M., Assistant Professor of Spanish (1967). AB, Bradley University, 1946; MA, Texas Tech University, 1965.


Terhllinger, Curtis D., Professor of Administration and Director, Legal Assistant Program (1957). BA, University of Kansas, 1953; JD, ibid., 1955. (Sabbatical leave—second semester, 1979)

Terrell, William T., Associate Professor of Economics (1967). BS, Oklahoma State University, 1958; MS, ibid., 1961; PhD, Vanderbilt University, 1970.

Terwilliger, Gordon B., Professor of Music and Dean of College of Fine Arts (1946). BME, Northwestern University, 1942; MA, Columbia University, 1946; EdD, ibid., 1952.

Thomann, Gary C., Assistant Professor of Electrical Engineering (1975). BSEE, University of Kansas, 1965; MSEEE, ibid., 1967; PhD, ibid., 1970.

Thomas, James H., Assistant Professor of American Studies (1976). BA, Wichita State University, 1971; MEd, ibid., 1975; PhD, Oklahoma State University, 1976.

Thomas, Phillip D., Professor and Chairperson of Department of History (1965). BA, Baylor University, 1960; MA, University of New Mexico, 1964; PhD, ibid., 1965.

Thompson, Norman D., Assistant Instructor, Assistant Director and Manager of Operations, Digital Computing Center (1967).

Thomson, John William, Assistant Professor of Music Theory-Composition and Director of Jazz Ensembles (1976). BM, Wichita State University, 1963; MM, ibid., 1965; DMA, University of Missouri at Kansas City, 1968.

Throckmorton, Helen J., Associate Professor of English (1954). AB, Friends University, 1945; MEd, University of Colorado, 1956; EdD, ibid., 1972.


Tilford, Michael, Associate Professor of Secondary Education and Associate Dean for Graduate Studies (1967). BS, Langston University, 1957; MA, The Johns Hopkins University, 1958; EdD, Oklahoma State University, 1970.

Tinterow, M. M., Clinical Associate of Respiratory Therapy (1972). BA, Rice University, 1937; MD, University of Texas, 1941.


Town, Robert L., Assistant Professor of Organ (1965). BM, Eastman School of Music, 1960; MM, Syracuse University, 1962.

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Ulrey, Michael, Assistant Professor of Mathematics (1973). AB, Kenyon College, 1967; MS, Ohio State University, 1959; PhD, ibid., 1973.


Unruh, Henry, Jr., Professor of Physics (1961). BA, Wichita State University, 1950; MS, Kansas State University, 1952; PhD, Case Western Reserve University, 1960.


Vader, Paul F., Jr., Professor of Military Science (1975). BS, United States Military Academy, 1961; MA, Kansas State University, 1973.

Vahdat, Pari, Associate Professor of Psychology (1967). AB, Indiana University, 1953; AM, ibid., 1957; PhD, ibid., 1964.


Van Fleet, James Alward, Assistant Professor of the Center for Urban Studies (1978). BA, University of Scranton, 1962; MA, Syracuse University, 1966; PhD, ibid., 1969.


Veach, Davia M., Assistant Professor of Elementary Education (1974). BSEd, Western Carolina University, 1966; MSAE, University of North Carolina, 1969; PhD, University of South Carolina, 1973.

Vickery, W. Dean, Assistant Professor of Administration and Assistant Dean for Student Affairs in College of Business Administration (1971). BA, Wichita State University, 1954; MS, ibid., 1968.

Waddell, Mina Jean, Assistant Professor, Library (1965). BA, Wichita State University, 1938; MS, Emporia State University, 1965.
Wahlbeck, Phillip G., Professor of Chemistry (1972). BS, University of Illinois, 1954; PhD, ibid., 1958. (Leave of absence—first semester, 1978)

Wall, Lillian A., Associate Professor of Spanish (1963). BA, Kansas Wesleyan University, 1932; MS, Emporia State University, 1953; PhD, University of Wisconsin, 1969.

Walters, Dorothy J., Associate Professor of English and Director of Center for Women’s Studies and Programs (1967). BA, University of Oklahoma, 1948; BA in LS, ibid., 1951; PhD, ibid., 1960.

Ward, Barbara, Assistant Professor of Nursing (1975, 1977). BSN, Fort Hays State University, 1972; MN, University of Kansas, 1975.

Warner, Michael, Assistant Professor of Educational Psychology (1977). AB, Occidental College, 1966; MA, University of Kansas, 1968; PhD, ibid., 1977.


Watertor, Jean L., Assistant Professor of Biological Sciences (1968). BA, University of California, 1944; MS, University of Wisconsin, 1948; PhD, Iowa State University, 1965.

Watson, Richard L., Associate Professor of Elementary Education and Chairperson of Department of Instructional Services (1971). AB, Wabash College, 1955; MS, Indiana University, 1959; EdD, ibid., 1964.

Weaver, Arden, Assistant Professor of Speech, Communication and Theater (1977). BS, Emporia State University, 1971; MA, ibid., 1972.

Weaver, Carol J., Assistant Professor of Health Education and Chairperson of Department of Physical Therapy (1979). BS, Kansas University, 1969; MS, University of Missouri at Kansas City, 1969; RPT, 1960.

Weaver, Michael, Clinical Associate of Respiratory Therapy (1972). Certificate of Inhalation Therapy, Wichita State University, 1971; ARIT, 1972.

Webb, Edgar L., Assistant Professor and Chairperson of Department of Industrial Education (1958). BA, Wichita State University, 1959; MS, Pittsburg State University, 1961.

Webb, Samuel C., Professor of Economics (1966). BS, University of Missouri, 1957; MS, ibid., 1958; PhD, University of Kansas, 1968.

Weiland, Marion Wise, Assistant Professor of Sociology (1974). BA, Duke University, 1961; MS, Montana State University, 1971; PhD, University of Iowa, 1977.

Welch, Lauren K., Adjunct Assistant Professor of Physician’s Assistant (1974). BA, University of Kansas, 1957; MD, University of Kansas School of Medicine, 1961.


Wellbrock, Mildred, Instructor and Coordinator in Health Administration and Education (1978). BS, Marion College, 1941; MS, Creighton University, 1968.


Welsbacher, Richard C., Professor of Speech Communication and Theater and Director of Theater (1958). AB, Denison University, 1948; MA, University of Denver, 1950; PhD, Ohio State University, 1964.

Wentworth, C. Russell, Associate Professor of Educational Administration, Dean of Admissions and Records and Director of Summer Session (1971). BA, Michigan State University, 1949; MA, ibid., 1952; PhD, ibid., 1970.

Wentz, William H., Jr., Professor of Aeronautical Engineering (1957, 1963). BS, Wichita State University, 1955; MS, ibid., 1961; PhD, University of Kansas, 1969.


Wherritt, Robert C., Associate Professor of Mathematics (1962). BS, Tulane University, 1955; MS, ibid., 1961; PhD, New Mexico State University, 1971.


Wiebe, Raymond F., Assistant Professor, Assistant to Dean and Counselor in University College (1965). AB, Tabor College, 1953; MS, Kansas State University, 1965.
Wilborn, Keith, Field Clinical Coordinator of the Physician's Assistant Program (1977).

Willhite, Mary, Associate Professor of Nursing (1978). BSN, Baylor University, 1958; MSN, Washington University, 1968; EdD, University of Tulsa, 1975.

Wilkes, Mary Nell, Assistant Professor of Business Education (1956). BS, Texas Woman's University, 1939; MBE, University of Colorado, 1961.

Wilkinson, Ronald J., Adjunct Assistant Professor of Administration (1976). AB, Wichita State University, 1956; LLB, Washburn University, 1958.


Williamson, L. Keith, Assistant Professor of Speech Communication and Director of Basic Oral Communication Program (1977). BA, Wichita State University, 1965; MTh, Southern Methodist University, 1968; PhD, Temple University, 1975.

Wilson, John H., Professor of Elementary Education (1968). BA, Wichita State University, 1958; MEd, ibid., 1964; EdD, University of Oklahoma, 1967.

Wilson, W. Herman, Assistant Professor of Physical Education and Track Coach (1967). BS, Kansas State University, 1952; MS, ibid., 1963.

Wineke, Donald R., Assistant Professor and Chairperson of Department of English (1971). BA, University of Washington, 1960; MA, Pennsylvania State University, 1962; PhD, Indiana University, 1971.

Winget, Lynn W., Professor of Spanish (1961). BA, Wichita State University, 1948; MA, University of Wisconsin, 1949; PhD, ibid., 1960.

Winters, Ronald H., Associate Professor of Health Education and Associate Dean of College of Health Related Professions (1977). BA, California State University, Northridge, 1963; PhD, Oregon State University, 1969.


Wood, L. Curtise, Professor of Administration (1956). BA, Coe College, 1938; MA, University of Iowa, 1956; PhD, ibid., 1956.


Woodward, Lynn N., Assistant Professor of Administration (1975). BS in Business, University of Minnesota, 1966.


Wu, Frederick H., Associate Professor of Accounting (1974). BA, National Taiwan University, 1961; MBA, University of California at Berkeley, 1966; DBA, Texas Tech University, 1975.


Yager, Mary J., Assistant Professor of Sociology (1975). BA, University of New Mexico, 1950; MA, ibid., 1962.

Yanney, Douglas M., Assistant Instructor and Director of the Foreign Language Instructional Laboratories (1975). BS, Wichita State University, 1972.

Yeager, Samuel J., III, Assistant Professor of Political Science (1976). BA, University of Massachusetts, 1967; MLS, George Peabody College, 1968; MS, Troy State University, 1971; MPA, Auburn University, 1972; DPA, University of Georgia, 1976.


Yeck, Elsie, Faculty Associate in the College of Health Related Professions (1977).


Yoon, I. N., Associate Professor and Chairperson of Department of Economics (1968). BA, Lynchburg College, 1955; MA, University of Minnesota, 1958; PhD, ibid., 1967. (Sabbatical leave, spring semester, 1978.)
York, James, Biomedical Illustrator in Health Education (1978). BFA, Wichita State University, 1974.


Youngman, Arthur L., Assistant Professor and Interim Chairperson of Department of Biological Sciences (1965). BA, Montana State University, 1959; MS, Case Western Reserve University, 1961; PhD, University of Texas, 1965.


Zachau, Ruth Marie, Assistant Professor, Humanities Librarian (1978). BA, Montana State University, 1974; MA, University of Minnesota, 1976; MALS, University of Wisconsin, 1978.

Zandler, Melvin E., Associate Professor of Chemistry (1966). BA, Friends University, 1960; MS, Wichita State University, 1963; PhD, Arizona State University, 1965.

Zoller, Peter T., Associate Professor of English Composition and Director of English Composition Program (1973). BA, University of San Francisco, 1965; MA, Claremont Graduate School, 1966; PhD, ibid., 1970.

Zumwalt, Glen W., Distinguished Professor of Aeronautical Engineering (1968). BS, University of Texas, 1948; BSME, ibid., 1949; MSME, ibid., 1953; PhD, University of Illinois, 1959.

Retired Faculty

Albright, Penrose S., Professor Emeritus of Physics (1943). BS, Rensselaer Polytechnic Institute, 1922; MS, University of Wisconsin, 1929; PhD, ibid., 1936.

Aldrich, Benjamin M., Professor Emeritus of Mechanical Engineering (1956). BSME, University of Nebraska, 1927; MS, South Dakota College, 1934; Registered Professional Engineer.

Angulo, J. E., Retired Assistant Professor of Spanish (1961). BS, Instituto Santiago de Cuba, 1921; AB, Friends University, 1925; MA, University of Kansas, 1931.


Cowles, Josephine M., Associate Professor Emeritus (1947). ScB, Ottawa University, 1929; BS in LS, University of Illinois, 1936; MS, ibid., 1938.

Cross, Laura M., Emeritus Dean of Registrar (1926). BA, Wichita State University, 1925.

Draper, Lewis A., Emeritus Professor of History (1963). AB, University of Chicago, 1939; MA, University of California at Los Angeles, 1948; PhD, ibid., 1952.

Duerksen, George N., Assistant Professor Emeritus of Industrial Education (1967). BS, Pittsburg State University, 1929; MS, ibid., 1935.

Duerksen, Walter, Professor and Dean Emeritus, College of Fine Arts (1932). BPSM, Wichita State University, 1931; MM, Northwestern University, 1938.

Fletcher, Worth A., Professor Emeritus of Chemistry (1927). AB, Indiana University, 1925; MA, ibid., 1926; PhD, ibid., 1927. (Deceased.)

Fugate, Josephine B., Emeritus Dean of Women (1955). AB, University of Kansas, 1924; MA, ibid., 1929.

Gerling, Amy C., Professor Emeritus of Sociology (1947). BA, University of Wisconsin, 1931; MA, ibid., 1933; PhD, Cornell University, 1939.

Gossett, Lucille, Assistant Professor Emeritus of English (1937). BA, Baker University, 1923; MA, Wichita State University, 1940.

Haines, Forrest D., Emeritus Assistant Professor of Industrial Engineering (1957, 1965). BS, Pittsburg State University, 1947.

Hammond, Geraldine, Emeritus Professor of English (1932). AB, Wichita State University, 1931; MA, University of Kansas, 1932; PhD, University of Colorado, 1944.
Hanson, Gordon C., Professor Emeritus of Educational Psychology (1938). BA, Augsburg College, 1928; PhD, University of North Dakota, 1937.

Haymaker, Mary, Associate Professor Emeritus of English (1925). BA, Wichita State University, 1925; MA, University of Colorado, 1927.

Hinton, Evelyn A., Associate Professor Emeritus of Educational Psychology (1929). Graduate, Columbia Normal School of Physical Education at Chicago, 1924; BA, Wichita State University, 1929; MS, University of Washington, 1938.

Holmen, Carol Schowalter, Associate Professor Emeritus and Associate Director, Media Resources Center (1942). BME, Wichita State University, 1935; MME, ibid., 1950; EdSp, University of Colorado, 1973.

Jamison, Ines, Assistant Professor Emeritus of Voice (1970). BM, University of Kansas, 1926.

Linscheid, Harold W., Emeritus Professor of Mathematics (1958). BA, Bethel College, 1929; MEd, Phillips University, 1937; MA, University of Oklahoma, 1941; PhD, ibid., 1955.

Lindquist, Emory, Emeritus President and University Professor Emeritus (1963). AB, Bethany College, 1930; BA, Oxford University, 1933; MA, ibid., 1937; PhD, University of Colorado, 1941; LLD, Augustana College, 1952; LHD, Bethany College, 1963.

Malone, Henry H., Emeritus Associate Professor of English and American Studies and Associate Dean of Fairmount College of Liberal Arts and Sciences (1948). BA, Wichita State University, 1932; MA, ibid., 1950.

Malone, Marjorie M., Retired Instructor in Spanish (1967). BA, Wichita State University, 1932; AM, University of Kansas, 1934.

Marsh, T. Reese, Professor Emeritus of English (1943). BA, The Johns Hopkins University, 1924; PhD, University of Iowa, 1933.

Mood, Robert Gibbs, Professor Emeritus of English (1936). AB, Southwestern University, 1920; AM, Columbia University, 1925; PhD, University of Illinois, 1939.

Newman, Arthur N., Associate Professor Emeritus of Voice (1950). St. Louis Opera Company; International Opera Company; NBC Opera Television; and New York City Center Opera.

Noel, O. Carroll, Professor Emeritus of Elementary Education (1950). BS, Emporia State University, 1927; MA, Wichita State University, 1948.


Paddock, Beatrice, Assistant Professor Emeritus, Library (1962). AB, Friends University, 1926; ABLS, University of Michigan, 1930.

Parker, Albert B., Emeritus Professor of History (1952). BS, Central State University, 1935; EdM, University of Oklahoma, 1942; PhD, ibid., 1951.

Pronko, N. H., Emeritus Professor of Psychology (1947). AB, George Washington University, 1941; AM, Indiana University, 1941; PhD, ibid., 1944.


Ryan, Robert, Associate Professor Emeritus of Economics (1946). BS, Michigan State Normal College, 1934; BSC, Detroit Business University, 1936; MA, Wayne State University, 1946.

Rydjord, John, Dean Emeritus of Graduate School (1926). AB, University of Wisconsin, 1922; MA, Northwestern University, 1923; PhD, University of California, Berkeley, 1925.

Schoener, Wilhelmina, Assistant Professor Emeritus of German (1963). AB, Friends University, 1926; MA, University of Kansas, 1962.

Simoni, John P., Professor of Graphic Design (1955). AB, University of Northern Colorado, 1948; AM, ibid., 1949; PhD, Ohio State University, 1952; Certificate, Massachusetts Institute of Technology, 1958.

Snodgrass, Fritz M., Assistant Professor Emeritus of Physical Education (1956). BS, Pittsburgh State University, 1926; MS, ibid., 1942.

Strange, John M., Associate Professor Emeritus of Art (1944). BFA, University of Oklahoma, 1931; MS, Fort Hays State University, 1938.
Taggart, Gladys Martha, Professor Emeritus of Physical Education (1928). BS, University of Iowa, 1923; MA, Teachers College, Columbia University, 1930; PhD, New York University, 1959.

Tuttle, Edward H., Associate Professor Emeritus of Social Work (1967). BA, Wichita State University, 1934; AM, University of Chicago, 1949.

Van Keuren, Katharine, Associate Professor Emeritus, Library (1945). AB, Wichita State University, 1922; MA, Columbia University, 1938.

Walker, Margaret L., Assistant Professor Emeritus of English (1947). AB, University of Kansas, 1919; MA, Radcliffe College, 1930.

Wallingford, Frances A., Associate Professor Emeritus of Piano (1956). BM, Southwestern College, 1931; AB, ibid., 1933; MM, Wichita State University, 1956; Certificates, American Conservatory in Fontainebleau, France, 1928 and 1963.

Watson, Tully F., Professor Emeritus of Physics (1947). BA, University of Oklahoma, 1928; MS, ibid., 1930; PhD, University of Illinois, 1935.

Wrestler, Ferna E., Associate Professor Emeritus of Mathematics (1947). BS, Pittsburg State University, 1924; AB, University of Kansas, 1925; MA, ibid., 1926.


Applied Music Instructors—Fall, 1978

Judy Fear
Robert Dover
Beverly Hamilton
Nancy Hercher
Janice Johnson
Gay Jones
Linda Naylor
Kevin O'Hara
Beatrice Pease
Mildred Unrau
Gordon Washburn
Janet Yenne

Lecturers—Fall, 1978

Alexander, Elizabeth Ann—Women's Studies
Andrews, James Keith—Engineering Technology
Anthony, H. Bruce—English Composition
Bahr, Ralph—Health Administration and Education
Benedict, Esther E.—Mathematics
Beresford, Jody—Sociology
Bolin, Bill—Economics
Bullard, Marcia—English Composition
Burgett, Doris—English/Composition
Cardenas, Michael—Mathematics
Ciszek, Robert—Minority Studies
Clark, Carol L.—Mathematics
Clevenger, Richard S.—Computer Science
Cloud, Jimmy Lin—Engineering Technology
Coffey, Lackme—Instructional Services
Colburn, Peggy M.—Psychology
Crisp, Raymond D.—English/Composition
Criss, Marybeth—Women's Studies
Curry, Otello H.—Biological Sciences
Dahl, David L.—Administration
Davis, Gordon A.—Anthropology
Douthett, Roger L.—Computer Science
Dyck, Stuart—English/Composition
Dudney, Gary D.—English/Composition
Eckert, William G.—Administration of Justice
Eichler, Suzanne L.—Women's Studies
Farmer, Gale E.—Mathematics
Fear, Judith—Performance
Forcht, Karen A.—Business Education
Freeman, Murleen DeeAnn—Performance
Glidden, H. Guy—SPG Unit of Department of Personnel Services
Goodwin, E. Allen—Reading Improvement Lab
Grohs, Dawn H.—Instructional Services

Guffey, Logan C.—Industrial Education
Halverstadt, Mary L.—Dance
Hamilton, Stella M.—Mathematics
Henderson, Robert A.—Engineering Technology
Henderson, Roy B.—Physician's Assistant
Howell, James G.—Instructional Services
Hunt, Marcia—English/Composition
Hunter, Ann P.—Health Science
Johnson, H. Dean—Mathematics
Kehoe, Virginia W.—Romance Languages
Klenda, Benedict M.—Mathematics
Koflan, Kenneth J.—Mathematics
Kosier, Mary—SPG Unit of Department of Personnel Services
Kramer, Marlene—Nursing
Kruger, Ellen B.—English/Composition
Kuntz, Edward J.—Administration of Justice
Kupersmith, Leonard—English/Composition
Kennedy, Dennis—Administration
Langley, John H.—Journalism
LeBaron, Jim B.—Health Administration and Education
Loewen, Ronald F.—Speech Communication
Love, Karen G.—English/Composition
Mahan, John Frederick—Industrial Engineering
Martin, Thomas W.—Mathematics
McConachie, Bettie—Dance
McDavid, Billie L.—Logopedics
McIntosh, Darrell E.—Computer Science
Morton, John R.—EAS Unit of Department of Personnel Services
Nathan, C. Henry—Journalism and Speech Communication
Newberry, Michael V.—Administration of Justice
Nodgaard, John C.—Administration
Nuckolls, Melissa A.—Sociology
O’Leary, Owen N.—Industrial Engineering
Padma, Vijaya—Mathematics
Pease, Beatrice Sanford—Performance
Prior, James W.—Industrial Education
Randol, Phil—Mathematics
Richards, Jane A.—Learning Resource Center
Roby, Warren B.—Intensive English
Roesler, Eileen—Intensive English
Roussel, Brigitte—Romance Languages
Ruark, Tony M.—Psychology
Saunders, Harold Duane—Physical Therapy
Savage, Roger L.—Industrial Education
Schroeder, Stanley K.—Industrial Engineering
Shapiro, Gary—Journalism
Shield, Royce D.—Physical Therapy
Short, David R.—Medical Technology
Simmons, Joyce M.—SPG Unit of Department of Personnel Services
Smith, Stewart S.—Computer Science
Spangler, Virginia—Performance
Spoon, Darrell D.—SPG Unit of Department of Personnel Services
Stone, Arthur J.—Administration of Justice
Stout, Bobby F.—Administration of Justice
Stucky, Ed—English/Composition
Swinson, Elizabeth G.—SPG Unit of Department of Personnel Services
Taggart, Elizabeth A.—Reading Improvement Lab
Todd, Theodora A.—English/Composition
Tolle, Garry—Health Administration and Education
Trapp, Nancy A.—Romance Languages
Travis, Nicolette—Romance Languages
Van Meter, Sondra M.—History
Villalpando, Innes J.—Romance Languages
Vollmer, George E.—Musicology/Composition
Wallace, Kat Matassarin—Speech Communication
Washington, Zenobia A.—Minority Studies
Williams, Le A.—Dance
Wilson, William R.—English/Composition
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