The Wichita State University

Undergraduate Catalog
1989-90
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Calendar</strong></td>
<td>4</td>
</tr>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>Administrative Officers</td>
<td>5</td>
</tr>
<tr>
<td>Profile of The Wichita State University</td>
<td>5</td>
</tr>
<tr>
<td>Admission to Wichita State</td>
<td>7</td>
</tr>
<tr>
<td>Academic Information</td>
<td></td>
</tr>
<tr>
<td>General Education Program</td>
<td>10</td>
</tr>
<tr>
<td>Special Academic Areas</td>
<td></td>
</tr>
<tr>
<td>Cooperative Education Program</td>
<td>16</td>
</tr>
<tr>
<td>Division of Continuing Education</td>
<td>16</td>
</tr>
<tr>
<td>Graduate School</td>
<td>18</td>
</tr>
<tr>
<td>Summer Session</td>
<td>19</td>
</tr>
<tr>
<td>Financial Information</td>
<td>20</td>
</tr>
<tr>
<td>Endowment Association</td>
<td></td>
</tr>
<tr>
<td>Student Affairs</td>
<td>22</td>
</tr>
<tr>
<td>Special Programs</td>
<td>24</td>
</tr>
<tr>
<td>Special Facilities</td>
<td>25</td>
</tr>
<tr>
<td>Student Activities and Organizations</td>
<td>27</td>
</tr>
<tr>
<td><strong>University College</strong></td>
<td></td>
</tr>
<tr>
<td><strong>W. Frank Barton School of Business</strong></td>
<td>30</td>
</tr>
<tr>
<td>College Policies and Programs</td>
<td>32</td>
</tr>
<tr>
<td>Accounting</td>
<td>35</td>
</tr>
<tr>
<td>Aviation Management</td>
<td>42</td>
</tr>
<tr>
<td>Business Education</td>
<td>43</td>
</tr>
<tr>
<td>Business Law</td>
<td>44</td>
</tr>
<tr>
<td>Decision Sciences</td>
<td>44</td>
</tr>
<tr>
<td>Economics</td>
<td>45</td>
</tr>
<tr>
<td>Finance</td>
<td>47</td>
</tr>
<tr>
<td>Legal Assistant</td>
<td>48</td>
</tr>
<tr>
<td>Management</td>
<td>48</td>
</tr>
<tr>
<td>Marketing</td>
<td>50</td>
</tr>
<tr>
<td>Personnel</td>
<td>51</td>
</tr>
<tr>
<td>Real Estate</td>
<td>51</td>
</tr>
<tr>
<td>Small Business/Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td><strong>College of Education</strong></td>
<td></td>
</tr>
<tr>
<td>College Policies and Programs</td>
<td>52</td>
</tr>
<tr>
<td>Communicative Disorders and Sciences (Logopedics)</td>
<td>55</td>
</tr>
<tr>
<td>Industrial Technology</td>
<td>59</td>
</tr>
<tr>
<td>Instructional Services</td>
<td>63</td>
</tr>
<tr>
<td>Military Science</td>
<td>68</td>
</tr>
<tr>
<td>Music Education</td>
<td>70</td>
</tr>
<tr>
<td>Personnel Services</td>
<td>70</td>
</tr>
<tr>
<td>Physical Education, Health and Recreation</td>
<td>73</td>
</tr>
<tr>
<td><strong>College of Engineering</strong></td>
<td></td>
</tr>
<tr>
<td>College Policies and Programs</td>
<td>76</td>
</tr>
<tr>
<td>Engineering—General Education</td>
<td>78</td>
</tr>
<tr>
<td>Aerospace Engineering</td>
<td>78</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>81</td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>83</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>86</td>
</tr>
<tr>
<td><strong>College of Fine Arts</strong></td>
<td></td>
</tr>
<tr>
<td>College Policies and Programs</td>
<td>89</td>
</tr>
<tr>
<td>Fine Arts—General Education</td>
<td>89</td>
</tr>
<tr>
<td>School of Art and Design</td>
<td></td>
</tr>
<tr>
<td>Foundation</td>
<td>90</td>
</tr>
<tr>
<td>Art Education</td>
<td>90</td>
</tr>
<tr>
<td>Art History</td>
<td>92</td>
</tr>
<tr>
<td>Graphic Design—Commercial Art</td>
<td>93</td>
</tr>
<tr>
<td>Studio Arts</td>
<td>94</td>
</tr>
<tr>
<td><strong>School of Music</strong></td>
<td></td>
</tr>
<tr>
<td>Music Education</td>
<td>98</td>
</tr>
<tr>
<td>Music Performance</td>
<td>103</td>
</tr>
<tr>
<td>Musicology-Composition</td>
<td>105</td>
</tr>
<tr>
<td><strong>School of Dance Performing Arts</strong></td>
<td>106</td>
</tr>
<tr>
<td><strong>Theatre</strong></td>
<td>108</td>
</tr>
</tbody>
</table>

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**Notes:**
- The table above provides a comprehensive list of contents found in the academic catalog of Wichita State University.
- The catalog includes sections on academic calendar, general information, university college, and various schools such as W. Frank Barton School of Business, College of Education, College of Engineering, and College of Fine Arts.
- Each section contains detailed policies and programs, making it a valuable resource for students and faculty alike.

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**Additional Information:**
- The catalog is organized in a logical manner, with each section dedicated to specific areas of study.
- It serves as a guide for selecting courses, understanding academic requirements, and planning for future semesters.
- The catalog is an essential tool for both current and prospective students, providing insights into the breadth and depth of programs offered at the university.
College of Health Professions
General Policies and Programs ........................................ 112
Basic Emergency Medical Care ........................................ 113
Dental Hygiene ........................................................... 113
Gerontology ............................................................... 115
Health Care Administration ........................................... 116
Health Science ............................................................ 118
Medical Record Administration ...................................... 120
Medical Technology ...................................................... 120
Nursing .............................................................. 123
School Nurse ............................................................. 127
Physical Therapy .......................................................... 127
Physician Assistant ........................................................ 129
Respiratory Therapy ...................................................... 131

Fairmount College of Liberal Arts and Sciences
College Policies and Programs ......................................... 134
Administration of Justice ............................................... 135
American Studies ........................................................ 141
Anthropology ............................................................... 142
Biological Sciences ...................................................... 144
Chemistry ................................................................. 148
Communication ............................................................ 152
Computer Science ......................................................... 156
Economics ................................................................. 160
English Language and Literature .................................... 160
Geology ............................................................... 164
History ............................................................... 167
Interdisciplinary Liberal Arts and Sciences Program ........... 169
Linguistics ................................................................. 169
Mathematics and Statistics ............................................ 170
Minority Studies .......................................................... 173
Modern and Classical Languages and Literatures ............... 174
Philosophy ............................................................... 178
Physics ................................................................. 180
Political Science .......................................................... 182
Psychology ............................................................... 184
Public Administration ..................................................... 187
Religion ................................................................. 187
Sociology/Social Work .................................................. 189
Women's Studies ........................................................ 192

University Faculty ........................................................ 194
Index ........................................................................ 209
Key to Course Descriptions ............................................. 213
Campus Map ............................................................... 214
Degrees and Academic Majors ......................................... 216

Undergraduate Catalog 1989-90
This Catalog is a guide for information only and is not a contract. It becomes effective Fall Semester 1989.
The official University address is The Wichita State University, Wichita, Kansas 67208-1595. The general University telephone number is (316) 689-3456. For admission information, call toll-free (800) 362-2594.
Produced by the Office of University Communications
Ellen Horn, Editor
Erin Runyan, Designer
Academic Calendar for 1989-90

Summer Session 1989

May 22-June 2 ............... Presession and workshops
May 29 ....................... Memorial Day, holiday
June 1-2 ...................... Summer Session registration
June 5 ....................... Classes begin, first four-week term
June 30 ...................... Final day of first four-week term; registration for second four-week term
July 3 ....................... Classes begin, second four-week term
July 4 ....................... Independence Day, holiday
July 28 ...................... Summer Session ends

Fall Semester 1989

August 21-26 ............... Fall semester registration
August 28 ................... Classes begin
September 2-4 ................ Labor Day, holiday
October 20 ................... Midterm point
November 3 .................. Final date for withdrawal with nonpenalty grades
November 13-21 ............. Preregistration period for spring semester. Exact dates published in the Schedule of Classes
November 22-26 ............. Thanksgiving recess
December 14 ................ Last day of classes
December 15 ................ Study day
December 16-22 ............. Final examinations
December 23 ................ Semester ends

Spring Semester 1990

January 15 ................... Martin L. King Day, holiday
January 16-20 ............... Spring semester registration
January 22 ................... Classes begin
March 11-17 .................. Spring recess
March 19 ..................... Classes resume
March 23 ..................... Midterm point
April 6 ....................... Final date for withdrawal with nonpenalty grades
April 8 ....................... Honors Convocation
April 18-27 .................. Preregistration period for fall semester. Exact dates published in the Schedule of Classes
May 11 ....................... Last day of classes
May 14 ....................... Study day
May 15-21 .................... Final examinations
May 22 ....................... Semester ends
May 26 ....................... Commencement

Summer Session 1990

May 28 ....................... Memorial Day, holiday
May 29-June 8 ................ Presession and workshops
June 7-8 ....................... Summer Session registration
June 11 ....................... Classes begin, first four-week term
July 4 ....................... Independence Day, holiday
July 6 ....................... Final day of first four-week term; registration for second four-week term
July 9 ....................... Classes begin, second four-week term
August 3 ..................... Summer Session ends
**General Information**

**1989-90 University and Academic Officers**

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

**Board of Regents, State of Kansas**

Richard W. Dodderidge, Chairman, Mission Woods  
Robert A. Creighton, Atwood  
Charles H. Hostetter, Manhattan  
Norman W. Jeter, Hays  
Shirley Palmer, Fort Scott  
Jack S. Sampson, Hutchinson  
Richard P. Senecal, Atchison  
Linwood Sexton, Sedgwick  
Donald C. Slawson, Wichita  
Stanley Z. Koplik, Executive Director, Topeka

**Mission Statement**

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

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

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

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

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

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

**Profile of The Wichita State University**

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

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

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

The Wichita State University offers more than 70 undergraduate degree programs in more than 150 areas of study in six undergraduate colleges: W. Frank Barton School of Business, College of Education, College of Engineering, College of Fine Arts, College of Health Professions and Fairmount College of Liberal Arts and Sciences. The Graduate School offers an extensive program including 42 master's degrees which offer study in more than 100 areas; specialist in education degrees; and doctoral degrees in applied mathematics; in chemistry; in communicative disorders and sciences; and in aerospace, electrical, industrial and mechanical engineering. A complete listing of the programs and degrees offered at The Wichita State University is located on the inside back cover of the Catalog.

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

Although WSU's first commitment is to excellence in instruction, it has an equally strong commitment to excellence in research and public service as integral parts of its educational mission.

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

The 330-acre campus is modern and accessible and at the same time retains the flavor of the University's 94-year heritage. Fifty pieces of sculpture by internationally known artists adorn the campus. Personnages Osseaux, a colorful mural created by the great Spanish artist Joan Miro, is displayed on the wall of the Edwin A. Ulrich Museum of Art.

During the past 15 years, Wichita State has more than doubled its instructional space, adding major buildings for art, engineering, health sciences, biological sciences, physical education, dance and liberal arts and sciences.

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

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

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

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

History

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

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


Policies

Human Relations

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

Student Responsibility

Students at The Wichita State University have the following responsibilities:

1. To consult their advisers on all matters pertaining to their academic careers, including changes in their programs

2. To observe all regulations of their college and select courses according to the requirements of that college

3. To attend all meetings of each class in which they are enrolled (instructors will announce at the beginning of the semester if they consider attendance in computing final grades)

4. To fulfill all requirements for graduation

5. To be personally responsible for fulfilling all requirements and observing all regulations at Wichita State

6. To answer promptly to all written notices from advisers, faculty, deans and other University officers

7. To file an Application for Degree card in the dean's office of the appropriate college at least two semesters before the expected date of graduation

8. To enroll in only those courses for which the stated prerequisite(s) (if there are any) have been satisfactorily completed. Failure to comply with this procedure may result in administrative withdrawal.

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

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

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

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

Academic Honesty

Opportunities for learning at The Wichita State University involve the students' rights to express their views and to take reasoned exception to the views of faculty; to examine all questions felt to be appropriate to a course of study; to be protected from improper disclosure of their views and beliefs; to be examined in a fair and impartial manner, and to be treated with dignity and respect.

Students are responsible, however, for learning the content of any course of study outlined by their instructors, regardless of any views or judgments privately held and for demonstrating their attainment in an honest manner.

Students who compromise the integrity of the classroom are subject to disciplinary action on the part of the University. Violations of classroom standards include:
1. Cheating in any form, whether in formal examinations or elsewhere
2. Plagiarism, using the work of others as one’s own without assigning proper credit to the source
3. Misrepresentation of any work done in the classroom or in preparation for class
4. Falsification, forgery or alteration of any documents pertaining to academic records
5. Disruptive behavior in a course of study or abusiveness toward faculty or fellow students

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

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

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

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

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

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

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

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

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

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

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

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

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

Degree-Bound Students
Freshmen
Students who will graduate from accredited Kansas high schools and will not attend another college before coming to Wichita State will be admitted to the University as freshmen after submitting an application and a high school transcript. Scores from the test battery of the American College Testing Program (ACT) must also be submitted before enrollment. Application may be completed in one of two ways:
1. Students may apply by taking the American College Test (ACT) and having the results sent to Wichita State (college code 1472). Upon receipt of the ACT scores, the WSU admissions staff completes a copy of the application and sends the form to the student. The student must then verify the data on the application, sign it and give it to their high school counselor, who should attach a six-semester high school transcript and return the forms to Wichita State. A Certificate of Admission will then be mailed to the students.
2. Students may also apply by completing a regular University application for admission and having a six-semester transcript and ACT scores sent to the University.

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

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

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

All entering freshmen are enrolled in the University College. The orientation program will send all freshmen complete information about orientation and enrollment. See the University College section of the Catalog for more information.
Students in University College must meet the admissions standards of the degree-granting colleges before transferring into them. The individual college admissions requirements are given at the beginning of each college's section in the Catalog.

**Transfers**

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

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

Transfer students are divided into two categories: (1) those with fewer than 24 college semester hours of credit or an undeclared major or who have not completed the Basic Skills component of the General Education Program and (2) those with declared majors and 24 or more college semester hours of credit and who have completed the Basic Skills component of the General Education Program. The latter includes six hours of English composition, three hours of communication, and three hours of college-level mathematics (see pages 16-17).

1. **Transfer students with fewer than 24 college semester hours of credit or an undeclared major or who have not completed the Basic Skills component of the General Education Program** will be considered for admission to University College. Students must submit to Wichita State's Office of Admissions an application and an official transcript from their last high school and each college attended. Before enrollment, students must also submit scores from the American College Test (ACT). Further details on transferring to a degree-granting college are given in the University College section of this Catalog.

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

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

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

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

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

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

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

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

**International Students**

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

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

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

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

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

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

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

Admission decisions for students with international secondary school or college records are made with reliance upon the resource materials available through the American Association of Collegiate Registrars and Admissions Officers and the National Association for Foreign Student Affairs. International students with transfer work from American colleges must present at least 12 credit hours with at least a 2.250 grade point average (4.000 scale).

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

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

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

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

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

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

Guest Students
Students attending another college or university who wish to attend Wichita State on a temporary basis in the Summer Session should submit an application to the Office of Admissions. Students applying for guest admission...
in the fall or spring semester must also submit an official transcript showing a 2.000 grade point average from their home institution. Guest admission is granted for a total of 15 semester hours and students who plan to continue at Wichita State beyond that limit must submit complete credentials. Students from other universities are usually enrolled as nondegree students in University College.

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

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

**Residence Defined**

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

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

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

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

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

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

**Academic Information**

**Registration**

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

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

**Classification of Students**

Students are classified according to the following scheme:

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

As a general rule, a student taking 12 hours during the fall or spring semester is considered a full-time student. For graduate students, nine graduate credit hours are considered a full load. (Graduate students who are half-time teaching assistants are considered full-time if they take six or more hours. Graduate students taking all or a majority of courses which carry undergraduate credit must meet the 12-hour requirement to be certified as full-time students.)

During the Summer Session, six hours are full time for both undergraduate and graduate students, with graduate teaching assistants full time with three hours. In order to graduate with a bachelor’s degree in eight semesters, a student must take an average of 16 credit hours per semester.

**Meaning of Course Numbers**

Courses numbered 99 or below do not count toward a 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 are admitted to these courses unless they have been admitted to the Graduate School. (See the Catalog section on graduate credit for seniors for special conditions under which seniors may be admitted to graduate courses.)

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

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

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

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

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.

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 executive vice president for academic affairs.

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

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

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

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

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

Auditor
Students are permitted in credit courses on a noncredit basis with appropriate approval under an auditor classification. To be enrolled as auditors, students must enroll in the same manner and pay the same fees as for credit courses at the University. Auditors may take advantage of the same privileges of class participation and instructor evaluation that students enrolled for credit have. Auditors are expected to attend class regularly. The audited course will appear on the transcript with the grade notation of Au.

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

A Distinguished achievement. Credit given; four credit points per semester hour.
B Superior achievement. Credit given; three credit points per semester hour.
C Average achievement. Credit given; two credit points per semester hour.
D Below average achievement. Credit given; one credit point per semester hour.
F Failing work. No credit hours earned toward graduation; zero credit points per semester hour. Counted as a course attempted and completed and included in computation of grade point average.
W Withdrawal from course. No credit given; no credit points. Does not affect grade point average 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). Credit given; no credit points assigned.
U Unsatisfactory (D or F). No credit given; no credit points assigned.
I Incomplete. Temporarily recorded as a grade when a student is granted an extension of time to complete course work. Credit is postponed and the course is not included in the student's grade point average until it is completed and included, 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 reverts automatically to a W and the grade earned during the repeat semester becomes the grade of record. (If the course is not offered when they re-
sume academic work, they must request that an exception be made by the chairperson of the department offering the course. The department chairperson may authorize a substitute course, postpone action for a semester or authorize a grade of W.

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

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

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

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

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

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

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

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

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

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

Grade Point Average (GPA). The grade point average (also called grade point index) is computed by dividing the total number of credit points by the total number of semester hours completed for which regular letter grades (A, B, C, D and F) are assigned. The grades Au, W, I, Cr, NCr, S, U and CrE are always excluded from grade point average computations.

Credit Points. For each hour of work the student takes, credit points are assigned to regular letter grades (A, B, C, D and F) to permit averaging of grades: A=4, B=3, C=2, D=1 and F=0.

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

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

Credit Hours Earned. Credit hours earned means that credit is given (A, B, C, D, Cr, S or CrE). No student may earn 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 the Wichita State University courses. It may not be applied after graduation to courses attempted prior to graduation.

Transition Semester

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

When students receive their graded reports (A, B, C, D or F) and if they have below a 2.000 GPA, they may file a request with the dean of University College that all work in the transition semester be translated into Credit/No Credit (Cr/NCr) on their official records, with Cr applying to letter grades A, B and C, and NCr applying to letter grades D and F.

To have letter grades translated into Cr/NCr, the Transition Semester Request Form must be filed by the student with the dean of University College between the posting of the semester grades and the student's next enrollment, including Summer Session. Students who file for transition semester will be placed on academic probation and will be required to meet the following criteria:

1. Students are limited to a maximum of 12 semester hours (or a proportional enrollment during Summer Session) or less during their next enrollment period.

2. Students must complete at least six (6) graded hours during their next enrollment (excluding Summer Session).
before eligibility will be reviewed. This does not include enrollment in courses taken for Credit, Audit or Satisfactory.

3. Students must receive at least a 2.00 GPA.

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

Credit by Examination

Advanced standing credit may be obtained by examination. The credit-by-examination program at Wichita State is designed to enable those who have achieved college-level education through independent study, correspondence, television instruction, past experience or other traditional or nontraditional means to demonstrate their level of achievement. The test results may be used to gain college credit in undergraduate courses. 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 written under the supervision of CEEB and the scores, which range from a high of five to a low of one, are sent to the college or university chosen by the student. Credit by AP examination is awarded at Wichita State in the areas of biological sciences, chemistry, English, French, German, history, Latin, mathematics, physics, Russian and Spanish. Under the AP program, credit at Wichita State is granted for specific courses. The titles of the specific courses for which credit is granted and the scores necessary for such credit are available from the Wichita State admissions office.

2. Credit may be earned by examinations through the College Board's College-Level Examination Program (CLEP). CLEP examinations are administered through the Wichita State Counseling Center. Information about the dates and times at which CLEP examinations are given is available from the Counseling Center.

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

4. Individuals admitted to Wichita State may earn credit by departmental examination. In general, students may earn credit by examination for any undergraduate course not covered in the areas given above. Students should apply directly to the chairperson of the department offering the course and consult with the Counseling Center before taking the exam. The chairperson will make the examination available, unless the course has been exempted from credit by examination by the University's Academic Standards and Practices Committee. The chairperson will be responsible for ensuring that students are informed of the scope of the course, the text used and other relevant information.

Except for special departmental exams discussed in the next paragraph, the grade recorded for credit earned by examination is C/E 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 C/E 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 C/E credit, provided that the choice is declared to the department before the test is taken.

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

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

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

Exemptions for Superior Achievement

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

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

2. They may also be exempt from college regulations, if any, governing the maximum number of hours students may take during a semester in one department. However, no student shall enroll in more than 21 hours without the permission of their college dean.
3. They may have permission to have course prerequisites waived with the consent of the instructor of the course and the head of the department in which the course is taken.

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

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

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

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

Freshmen are admitted to the program if their high school grade point average is at least 3.500 as certified by the University. Transfer and incumbent students may enter the program if they have achieved a minimum grade point average of 3.250 over at least 30 credit hours at the University. Any student meeting these last two conditions, but who has not entered the program, may enroll in an honors course upon approval by the honors director.

Effective Fall 1989, new students wishing to participate in the Emory Lindquist Honors Program will be required to maintain a minimum grade point average of 3.250 and make regular progress toward completion of 21 hours of honors credit at least two different departments: specific information about this regular progress requirement should be obtained from the program office. Program requirements include: at least nine of the 21 hours must be in upper-division (300-level and above) course work; five of the honors courses selected must be regular honors sections (as opposed to honors-options or independent study); and at least two of these regular honors courses should be upper-division courses. Graduate 700-level courses (excluding workshops) may be taken in place of regular upper-division honors courses. Appropriate 600-level courses may also count toward this requirement, subject to the director's approval. Students enrolled in programs which severely restrict elective hours may petition the director to substitute honors-option courses for regular upper-division honors courses. A written statement of benefits and requirements is available from the program office, 218 Liberal Arts and Sciences Building.

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

Lower-Division Courses
101. Special Studies in Humanities and the Fine Arts. (1-4), P 11 101 0 4905
102. Special Studies in Social and Behavioral Sciences. (1-4), P 11 102 0 4906
103. Special Studies in Natural Sciences and Mathematics. (1-4), P 11 103 0 4907
104. Special Studies in Professional Studies. (1-4), P 11 104 0 4908
201. Proseminar in Humanities and the Fine Arts. (1-4), P 11 201 9 4905
203. Proseminar in Natural Sciences and Mathematics. (1-4), P 11 203 9 4907
204. Proseminar in Professional Studies. (1-4), P 11 204 9 4908

Upper-Division Courses
301. Colloquium in Humanities and the Fine Arts. (1-4), P 11 301 9 4905
302. Colloquium in Social and Behavioral Sciences. (1-4), P 11 302 9 4906
303. Colloquium in Natural Sciences and Mathematics. (1-4), P 11 303 9 4907
304. Colloquium in Professional Studies. (1-4), P 11 304 9 4908
400. Honors Seminar. (1-4), P 11 400 9 4909
410. Independent Study. (1-4), Repeatable to a maximum of six hours of credit. P 11 410 9 4910
420Q. Seminar in Humanities and Fine Arts. (1-4), P 11 420Q 9 4905
430Q. Seminar in Social and Behavioral Sciences. (1-4), P 11 430Q 9 4906
440Q. Seminar in Natural Sciences and Mathematics. (1-4), P 11 440Q 9 4907

Independent Study Leading to a Degree with Departmental Honors
Outstanding students may enroll in their junior or senior years in independent study which leads to a degree with departmental honors if the work is satisfactorily completed. Students with junior standing and a cumulative grade point average of 3.250 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 director 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 the dean of the student's college. The completed application must be filed with the honors director 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 the results according to specifications established by the honors director. Students must be examined on their project and other aspects of their major field of study. A three-member faculty committee conducts the examination and determines the student's eligibility for graduation with departmental honors. Students failing to secure such a degree either because of failure to complete
their projects or failure in the examination will receive academic credit toward the regular degree for the credit hours completed, with the grade determined by the instructor under whom the work was performed. In no case may any student receive more than six credit hours for independent study.

Academic Recognition

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

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

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

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

Each spring outstanding students are recognized at the University Honors Convocation. Invitations are extended to graduating seniors with cumulative WSU grade point averages of 3.250 or higher. Class honors are awarded to other students who have completed a minimum of 12 hours of graded course work at Wichita State with a cumulative WSU grade point average of 3.750 or higher.

Withdrawal

Voluntary Withdrawal

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

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

After the tenth week of a semester or the fifth week of the eight-week Summer Session, students may withdraw from one or more courses with a W only if they petition the dean of their college and if the University's Committee on Admissions and Exceptions approves their petition. (The alternative to a W is an F.)

When students wish to withdraw, they must consult an adviser, obtain drop slip(s) for every course (line number), and have their adviser sign in the appropriate place. They must then take the drop slip(s) to the instructor of each dropped course and obtain the instructor's signature. After receiving the instructor's signature for each dropped course, students must take the drop slip(s) to the office of the dean of the appropriate college for the dean's signature and final approval. The completed drop slip(s) must then be taken to the Registrar's office in Jardine Hall. Refund, if any, will be made according to the schedule published in The Wichita State University Schedule of Courses.

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

Administrative Withdrawal

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

1. The student's class attendance is so poor that in the instructor's opinion full benefit cannot be derived from the course.
2. A University College student fails to be accepted by a baccalaureate college by the time of completion of 48 credit hours.
3. The student fails to complete successfully all prerequisites for those courses in which the student is enrolled.
4. The student violates the provisions of the student's responsibilities statements in the University Catalog. (See the Student Responsibility section of the Catalog.)
5. The student does not comply with the terms of a provisional admission.
6. The student has unmet financial obligations to the University.

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

Academic Progress Reports

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

Midterm Down Reports. At midsemester, a Down Report may be sent to students doing below average work and to their academic 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 2.000 for University College) but below this level for one semester may receive a letter from the dean of their college warning of the consequences of continued standard 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 the University College sections of the Catalog. Students should consult the appropriate section of the Catalog for these standards.

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

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

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

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

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

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

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

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

Court of Student Academic Appeals

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

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

Requirements for Graduation

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

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

Students must have credit for 124 acceptable semester hours toward their degree. Hours of credit earned toward a degree do not include courses with grades of F, W, AU, NCR or I.

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

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

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

Students transferring from a two-year college must complete at least 60 hours of four-year college work and 40 hours of upper-division work in order to qualify for graduation from Wichita State.

At least 30 semester hours of course credit (A, B, C, D or Cr) must be earned at Wichita State. Also, at least 24 of the last 30 semester hours or 50 of the last 60 semester hours must be completed at Wichita State. Exception to this regulation may be made by the University’s Committee on Admissions and Exceptions.

Students may transfer credits earned in correspondence or extension courses with the approval of their dean. However, no more than 30 semester hours of such credit may apply toward a baccalaureate degree and no more than six hours of such credit may be among the last 30 semester hours.

General Education Program

The General Education Program seeks to provide each student with a body of knowledge that is both a broad foundation for his or her major field of study, and also the beginning of what is necessary to become a genuinely educated man or woman. To achieve these purposes, the program combines required courses in composition, communication and mathematics with distribution courses in the various major areas of knowledge. These distribution courses are identified in the course catalog and schedule of courses as “G” courses.

There are also some special distribution courses designed specifically for students who might have no further encounters with a certain field of study. These General Studies courses are designated in the catalog as “G” courses and students are required to take a minimum of nine hours of “G” courses. To assure the breadth of studies that is characteristic of an educated human being, the faculty requires students to select their distribution courses according to certain rules, which are stated below. The General Education Program is an opportunity for all students to grow in their knowledge of and appreciation for the rich variety of human achievements in the arts, sciences and humanities.

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

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

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

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

<table>
<thead>
<tr>
<th>No. of transfer hours accepted for distribution</th>
<th>No. of “G” hours yet required</th>
<th>Minimum No. of “G” hours to be included in column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6</td>
<td>29-24</td>
<td>9</td>
</tr>
<tr>
<td>7-15</td>
<td>23-15</td>
<td>6</td>
</tr>
<tr>
<td>18-21</td>
<td>14-9</td>
<td>3</td>
</tr>
<tr>
<td>22-29</td>
<td>8-1</td>
<td>0</td>
</tr>
</tbody>
</table>
To complete the General Education Program each student must take:

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

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

II. Distribution Courses (30 hours)

A. Distribution requirements may be satisfied only by courses designated by the letters "Q" or "G" following the course number in the Schedule of Courses. For a course to be considered a distribution course, it must have been designated by a "Q" or "G" during the semester in which the student was enrolled.

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

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

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

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

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

General Studies Courses

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

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

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

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

Division A, Humanities and Fine Arts

Am. St. 201G, The American Hero
Art H. 121G, Survey of Western Art: Renaissance and Baroque
Comm. 190G, Crises in Communication
Engl. 232G, Themes in American literature
Hist. 100G, The Human Adventure: World Civilization Since 1500
Hist. 101G, History of Western Civilization
Hist. 102G, History of Western Civilization
Hist. 108G, A History of Lost Civilizations
Hist. 330G, The Americans: Conflict and Settlement

Division B, Social and Behavioral Sciences

Anth. 100G, Anthropology of Modern Life
Anthr. 105G, Contemporary American Society
Anthr. 126G, Popular Archaeology
Econ. 101G, The American Economy
Hist. 100G, The Human Adventure: World Civilization Since 1500
Hist. 101G, History of Western Civilization
Hist. 102G, History of Western Civilization
Hist. 108G, A History of Lost Civilizations
Hist. 330G, The Americans: Conflict and Settlement
Hist. 335G, The American Dream: From the Founding to the Present

Division C, Mathematics and Natural Sciences

Anthr. 201G, Introduction to Business
Engl. 232G, Themes in American literature
Engl. 307G, Narrative in Literature and Film
Hist. 100G, The Human Adventure: World Civilization Since 1500
Hist. 101G, History of Western Civilization
Hist. 102G, History of Western Civilization
Hist. 108G, A History of Lost Civilizations
Hist. 330G, The Americans: Conflict and Settlement

The Wichita State University/General Education Program
I. Mathematics and Natural Sciences

Pol. 103G, Games Nations Play: Problems in International Relations
Soc. 100G, Sociology and Everyday Life

Division C, Mathematics and Natural Sciences

Biol. 105G, The Human Organism
Biol. 509G, Foundations of Human Heredity

Engr. 300G, Technology and Society
Geol. 300G, Energy, Resources and Environment

Math. 300G, The Evolution of Mathematics

Phys. 195G, Introduction to Modern Astronomy
Phys. 395G, Solar System Astronomy

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

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

Commencement

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

Special Academic Areas

Cooperative Education Program

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

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

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

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

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

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

Requirements for co-op participation vary within the different colleges and departments. Requirements for admission to the co-op program generally include completion of 24 credit hours and satisfactory academic standing. Interested students should contact the Cooperative Education Office in 125 McKinley Hall or phone (316) 689-3688.

Students are required to complete an application for admission and schedule an interview with the appropriate co-op coordinator.

Division of Continuing Education

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

1. Provide, in cooperation with degree-granting colleges, courses, programs and support services for faculty and students in off-campus locations

2. Develop and provide alternative information sources, registration procedures and orientation programs for adult part-time students

3. Cooperate with business, industry and the professions in providing specialized credit and noncredit classes

4. Provide planning and support services to the continuing education centers within the individual academic colleges

5. Organize and administer courses for nontraditional students designed to meet their unique time and location needs. The instructional services of the University are extended through courses presented over WSU Cable 13, KMUW Radio and commercial television stations; and in outreach locations.

6. Assist in the development of original presentations and coordinate the reception of teleconferences provided by the National University Teleconference Network and other educational teleconference producers

7. Coordinate adult scholarships and senior citizen services

8. Provide centralization of the records and reporting functions to the Kansas Board of Regents for University-wide, off-campus credit activities and all noncredit programs.

Graduate School

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

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

Summer Session
During its Summer Session—the largest in the state of Kansas—Wichita State continues its commitment to quality education. All of the University's academic divisions operate during the Summer Session, and credit toward both graduate and undergraduate degrees may be earned. More than 200 faculty teach more than 650 regular and short courses; the standards of achievement are identical with those of the academic year. Credits earned in the Summer Session are accepted by all colleges accredited by or belonging to the associations that accredit the University.

Courses are offered in a variety of formats. A two-week pre-session precedes two four-week sessions which are concurrent with the regular eight-week session. Both day and evening classes are offered. For information regarding dates for the various sessions, dates of enrollment and course offerings, contact:

Director of the Summer Session
The Wichita State University
Wichita, Kansas 67208-1596
(316) 689-3726

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

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

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

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

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

Study Abroad Programs. Wichita State offers organized study abroad programs in Mexico and France, described below. Additionally, students can individually study abroad for up to four hours of credit. For more information, contact the Office of International Programs, 303 Grace Wilkie Hall.

Summer Programs in Strasbourg, France. Students of French can improve their fluency and broaden their understanding of French culture in the five-week summer program in Strasbourg, France. Students with a minimum of one year of university French or the equivalent are eligible to participate. Students live in university housing, are invited into French homes and attend intermediate through graduate level courses in French language, culture and literature.

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

Comprehensive Fee Schedule
Fees given in this Catalog were proposed for 1989-90 and may be changed by the Kansas Board of Regents or the Kansas Legislature.

Basic Fees
Basic fees for on-campus (City of Wichita and the immediate contiguous industrial and military facilities) regular enrollment and continuing education credit courses are:
breakage, wastage of materials and materials used in excess of those required to complete a course.
2. Geology Field School: actual costs per semester
3. Military science: $5 per semester
4. Physical education (bowling): $35 per semester
5. Physical education (bowling), PE 201B: $7 per course
6. Physical education (horsemanship): $75 per semester
7. Physical education (scuba diving): $75 per semester
8. Physical education (CRP and first aid certification): $1 per certification

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

Students enrolled in fewer than six hours will be charged regular tuition and student fees. Tuition and fees will not be charged to graduate students enrolled in the above courses. During Summer Session, tuition and fees for the above ensembles will not be charged to undergraduates or graduate students enrolled for two or more credit hours in courses other than the above.

Heskett Center Program Fees (Nonstudents)
- Spouse of student: $40 per fiscal year
- Family of student: $50 per fiscal year
- Faculty or staff: $50 per fiscal year
- Faculty/staff and spouse: $80 per fiscal year
- Faculty/staff and family: $100 per fiscal year

* Fees are $10 less if paid in a lump sum at the beginning of the year.

Partial year program fees will be prorated and therefore differ from those above.

Payment of the fee entitles the individual or family to use the facility and services during those hours specifically scheduled for each membership category and/or activity of interest. Hours will vary.

Special Fees, Deposits and Waivers
Certain other fees are assessed as indicated below:
- Telecourse fee: $8.00 per credit hour
- English composition placement fee: $0.00/person
- Reserving of class fee: $0.00/person
- Diploma replacement fee: $15.00/person
- International student application processing fee: $25.00/person
- Orientation fee: $25.00/person
- New freshman student transcript and certification fee: $3.00/copy
- Public documents per copy charge: $0.25/copy
- Early registration fee: $10.00/registration
- Career placement registration fee: $25.00/registration
- Returned check fee: $10.00/check
- Testing and credit by examination fee: $0.00/credit hour
- Experimentation learning assessment fee: $0.00/credit hour
- Payment of the fee entitles the individual or family to use the facility and services during those hours specifically scheduled for each membership category and/or activity of interest. Hours will vary.

Off-Campus Regular Enrollment and Continuing Education Credit Courses and Workshop Fees
A specific course fee of $50 (undergraduate) or $70 (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 $61.15 per credit hour, including $50 for tuition and $11.15 for student fee, is assessed. Fees for noncredit workshops are based on actual operating costs.

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

Departmental Fees
Special departmental fees are charged as summarized below:
1. Students are required to reimburse the University for the cost of excess...
Contracts and Compensatory Charges

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

Drop Fee

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

Refund Policy—Complete and Partial Withdrawal

Students making a complete or partial withdrawal during the first two weeks of a semester (first week in the eight-week Summer Session) are entitled to an 80 percent refund of tuition and fees. Students making a complete or partial withdrawal during the third, fourth and fifth weeks of a semester (second week in the eight-week Summer Session) are entitled to a 40 percent refund of tuition and fees. No refund is made to students who withdraw after the fifth week (second week in the eight-week Summer Session). All refunds are subject to a $10 drop fee.

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

To withdraw completely from the University, students must process drop cards for all classes in which they are enrolled.

Fee Waiver Policy

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

1. Students request a petition form from the dean’s office of their college and provide the information requested on the form.

2. Students present the petition to their college dean’s office for consideration. Graduate students petition the Graduate School dean’s office.

3. Students are notified of the action taken on the petition.

4. Students submit approved petition to the Controller’s Office with their enrollment, schedule change or withdrawal forms.

5. When students wish to appeal a negative decision on a petition, they call their college dean’s office for information on how to file an appeal.

Senior Citizen Fee Waiver

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

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

Period of Payment

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

Unpaid Fees

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

Assessment and Collection

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

Student Housing Fees

Room and Board rates at The Wichita State University vary with the choice of meal plan. Housing costs for the 1989-1990 school year are 2,635 for 19 meals per week, 2,579 for 15 meals per week and 2,501 for 10 meals per week, and may be made either monthly or semestery. Single rooms are available at an additional cost of $300 per semester. These rates include furnished, air-conditioned rooms, local telephone service and all utilities.

In addition to the housing fees, a $35 nonrefundable application fee is assessed of each person applying for a room in the residence hall.

Rates are for fiscal year 1990. Fees may be charged by the Kansas Board of Regents.

Financial Aid

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

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

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

Federal Grants and Loans. Students may receive aid through several federal programs: Supplemental Educational Opportunity Grants, Pell Grants, National Direct Student Loans and Guaranteed Student Loans. As part of the Office of Financial Aid, the Office of Veterans and Military Services devotes itself to veterans and active duty people. The services span the entire range of benefits and include certification for benefits to the VA, tutorial assistance, financial aid information and work-study for veterans.
The Wichita State University is designated a Serviceman's Opportunity College.

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

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

Endowed Chairs
The most prestigious manner in which to endow monies to the University is through an Endowed Chair. An Endowed Chair, named according to the wishes of the donor, may be established with an endowment of $500,000. The Endowed Chairs current to the University are:
- R. P. Clinton Chair in Business
- Entrepreneurship Chair
- Kansas Chair in Real Estate and Land Use Economics

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

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

The current University Endowed Professorships and Fellowships are:
- Boeing Professorships
- Adele Davis Professorship of Humanities
- Geraldine Hammond Visiting Professorship of Humanistic Studies
- Hugo Wall Fellowship

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

ACE Endowment Fund
Dr. and Mrs. Charles A. Adams Fairmount Fund for Faculty
Jackson P. Adams Endowed Book Fund
W. Frank Barton School of Business
J. R. Berg Distinguished Petroleum Lectureship
Sam Bloomfield Distinguished Engineer in Residence
Melba Cornwell Budge Piano Pedagogy
Business Heritage Series Fund
Burtier-Ransom Fund for Religion
Devlin Athletic Fund
Devlin Entrepreneurship Fund
William and Ria Dyer
Oliver B. Elliott School of Communication Endowment
Entrepreneurship Activities
Entrepreneurship Research Fund
Dr. Carl Fahrback Football '70 Memorial Football Fund
Fugate Purse Mathematics Fund
John L. Garlow Fund
Margaret Alexander Glades Endowed Fairmount Faculty Fund
Lyman G. Hardy Fund
Deborah G. Haynes Fairmount Fund for Faculty
Brad Hellman Memorial
Honor Fives Fund
M. Alice Isey Memorial Book Fund
Kouri Paracourse
Claude R. Lambe Fund
Library Associates Fund
Library Journal Acquisitions Fund
John Liggett Fund
Ralph J. Lightner Fund
Delano Maggard Student Loan Fund
Thomas B. Meeker Memorial Fund
PFF Fund
M.A. Thesis Award
Midwest Research Fund
The Lewis and Selma Miller Fund for Fine Arts
William Miller Memorial Fund
Harrie S. Mueller
Lydia Newman Fund
Christine F. Paulsen Fine Arts Fund
Jack G. Paulsen, Athletic Fund
Program in Entrepreneurship
Geney and Charles Reed
Dr. Martin Reif Liberal Arts Enrichment Fund
Deiorea, Elta and Sidney Rodenbarg Teaching Award
Rossutcher Library Fund
Anna M. Ryan Fund
School of Accountancy Professional Development Fund
James Schwartz Lecture Series
Seamans Memorial Library Fund
Summer Program in Entrepreneurship
Mary Jane Teall Theatre Fund
Ron and Linda Tyler Fund
Ulrich Museum of Art
WSU Regents Award
WSU Summer Theatre
George Van Riper Distinguished Speaker Series
Marjorie Winthrop Williams Fund

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

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

Endowed scholarships and respective departments include:
- Ric Abbott, aeronautical engineering
- Clark and Rowena Ahlig, general
- Alfam, athletics
- Fred and Mary Alley, business
- Robert Alley, education
- Alumni Awards, general
- Alumni Bowling, bowling
- Lloyd T. Amsden, fine arts
- Anderson Walk-On, athletics
- James E. Anderson, Sr., education
- Robert E. Anderson-Leoand M. Chaffee, education
- Anonymous, general
- Athletics Scholarship
- Jack Austin, business
- A. J. and Jean Bachas, general
- James Kerr Bandsman, music
- Bank IV, general
- Bentley and Pearl Barnabas, business
- W. Frank Barton, business
- W. Frank Barton, entrepreneurship
- Beech Employees Club, athletics
- Walter H. Beech, aeronautical engineering
- Lloyd R. Bell Memorial, music
- Douglas Bendell, liberal arts
- Christopher Benn, medicine, science/engineering
- Big Brothers-Big Sisters of Sedgwick County, general
- Biological Science, biology
- Dr. Leslie Blake, speech
- John Blazek, Winds
- V. Jerry Blue, entrepreneurship
- Luella Bosworth, English
- Merrill Bosworth, music
- Hazel Branch, biology
- Margaret F. Gillespie Brehm, general
- Sidney J. Brick, bowling
- Hazel and Edward R. Brookings, health
- War O. and Agnes Brooks, biology
- Josephine and Rumin, education
- Marvin G. Brown Football Memorial, general
- Melba Cornwell Budge, piano
- Raymond LeClair Budge, art
- Charles M. Bues, chemistry/business
- Garand and Jeanette Bugg, handicapped services
- Stephen Bunnam Memorial, mechanical engineering
- Louisa Byington, liberal arts
- Marjorie Calkins Memorial, music
- Vincent Canzoneri, music
- James Caesar, music
- Leonard M. Chaffee, education
- Van Dilla Chapel, general
- Anna V. and Robert V. Christian, chemistry
- Donald G. Christian Football Memorial, general
Christmas Card Scholarship, general
Harry E. Christopher Award, math
James Chubb, physics
Class of 1937, general
Rick P. Clinton, business
Flora Clough, English/literature
Verda Colaw Memorial, engineering
Daisy Stever and Lisle Stephenson Congdon, general
Coors-Latin Veterans, general
Sara Hyde Corbin, political science
Jess Connejo/Cornejo & Sons, operation success
Lee Cornell, geology
Wayne Coulson, pre-law
Leland F. Cox, business
Cramer Foundation, general
Laura McMullen Cross Honorary, liberal arts
Paul T. and Mary Jane Curry, entrepreneurship
David Dearmore, athletics
Urban Denker, real estate
Cecil W. and Helen J. Dorman, business
Walter J. Duarsen, music
John W. Duke, football, fine arts
Paul V. Elliott, general
Howard E. Ellis, music
English Teacher's Endowed, education
Gordon W. Evans Instrumental, music
John L. Evans, pre-med
Charles S. Evenson, business
Sid Fairaire Memorial, education
Floyd M. Farmer, education
Floyd Farmer, athletics
Louise Findlay, music
Martha Fleming, dance
Fletcher-McKinley, chemistry
Helen Johnson Frank, general
Howard Frank, business
Friends of Delta Upsilon, general
Charlaine and Lynette Furley, liberal arts
Glenn Gardner, general
Sam Gardner, golf
Edith A. Garlock, health
Morris and Mary Garvin, music
Clifford W. and Leah E. Gauker, health professions
Merle Geist, athletics
Paul H. Garling Public Affairs Internship, political science
Mabel Fay Gillespie, general
R. L. Gillespie, general
Jacob and Molly Glickman, general
Golf Memorial, golf
Harry Gore, general
Henry and Helen Gore, music
Harold and Eva Weiner Grafton, English
Marie Graham, history
Grand Army of the Republic, logopedsics
Charles and Helen Graves, general
Elton and Phyllis, fine arts
Benjamin F. Hammond, general
Geraldine Hammond, liberal arts
Eva C. Hangan Delta Gamma, general
Herbert J. Hennan, education
Donald R. Harbour, administration of justice
Martin E. Harrison Football Memorial, general
Larry Harker, music
Mary Haymaker, English
Allene Nelson Henderson, nursing
Arthur J. Hoare, mathematics
Carol and Elton Holman, flute
Dr. Robert Holmer, education
Richard H. Homburger Award for Excellence, general
Myri Houck, general
Grace Howell, journalism
Sam C. Hutchinson, liberal arts
Earl R. Hutton, engineering
Instructional Services Alumni, education
Eunice Jones Iseely, senior honor women
Frank C. Iseley, general
William H. Iseley, senior honor men
Col. James J. Jabare, general
John C. and Maude James, engineering
J. R. and Inez Jay, general
Nicola S. Kaskie, music
Arthur and Annabelle Johnson, health
Cheese Johnson, basketball
Ronald G. Johnson Football Memorial, general
Charles and Nina Kirby Jones, liberal arts/business
KBJ Foundation Scholarship, continuing education
Joan and Melvin Kahn, Native American Indian
Lee and Helen Kamen, liberal arts/political science
Kappa Kappa Gamma, handicapped services
Alben W. and Marion Katzenmeier, athletics
Marvin B. Kaufman Memorial, business
Marquardie Keefey, women's basketball
Randall B. Keisau Football Memorial, general
John F. Kennedy Memorial, general
Frank and Maragret Kessler, music
Malory L. Kimmel Football Memorial, general
Ralph R. Knapp, art
Christopher R. Knapp Memorial, health
Jay and Lilian Korffel, music
Susan M. Kraft, athletics
Morris and Flossie Krous, athletics
Carl R. Krueger Football Memorial, general
June M. Lair Endowment for the Arts, fine arts
Robert D. Lander, art
George Lewis, psychology
Thurlow Lieurance, music
L'il Egle, general
Sally Duke Livingston, entrepreneurship
George David Lodge, business
Bob Long/Vince Lombardi, athletics
William O. Long, general
Anita Luquet, business
Charles and Amy Mahin, English/education
Frank A., Jr., and Frank Clifford Malone Memorial, chemistry
Dr. Robert F. and Judith Malone, health
Sam and Milly Marcus, general
Julienne Weaver Masters, theatre
C. R. Mayfield, geography
R. W. Wesley McCarty, political science
John G. and Barbara McCune, health
Clinton C. McDonald, science
Levra N. McGregor, general
Marjorie McMahon, math
Men of Webster, general
Dr. Daniel Fornham, geology
Pearl J. Miburn, general
Frank H. Miller, accounting
Ralph Miller Fund, athletics
Stephen A. Moore Football Memorial, general
Marvin Munsell, anthropology
Craig Murphy, English
Olivia J. Nath, baseball
C. Henry and Ruth Nathan, journalism/speech
Olve Baker Nease, general
Frank A. Neff Memorial Award, business
Henry J. and Tina Nickel, fine arts
John M. and Nelda Nickel, education
Kenneth Northcutt, business
Nygaard Family Scholarship, health/education
Conroy G. O'Brien, administration of justice
Dr. Henry and Minnie Ongard, history
William D. Owen, Jr., Football Memorial, general
Marfie Page, golf
Robert T. Pate, education
John N. Payne, business/education
Charles G. Pearson, journalism
Don Phillips, geology
Physician's Assistant Student Society, health
Pi Mu Epsilon, math
Oa Osborn Piper, health
Adrian Pouliot, music
Dr. Jackson O. Powell, psychology
Larry D. Ricks, geology
Carmen F. Robinson, pre-law
Kern Purves, golf
Larry D. Ricks, geology
Richard and Jean Reidenbaugh, entrepreneurship
Charlotte E. Rennert, German
Charles and James Rickman, liberal arts
J. Dean Rickman, general
Nettie Rickman, general
Larry D. Ricks, geology
Austin and Arline Rising, aviation management
James P. Robertson, music
Eugene Robinson Football Memorial, general
Paul Christie and John Timothy Rose, health
Charles Rossdutter, accounting
Robert Ryan, economics
John Rydjord Graduate Award, history
Bienvenido N. Santos, liberal arts
F. C. Sauer, zoology
Eugene Savalano, liberal arts
Sawalahtownd Award for Excellence, fine arts
Terry D. Scott, political science
John Schneider, music
Diana Scott, geology
Vera Hutton Seaman, general
Thomas F. Sheddton Football Memorial, general
Ralph and Ina Shenk, physical sciences
Sael and Rosemary Sherr, communicative disorders
Shocker Auction, all colleges
Sigma Alpha Iota, music
Shelly Skillman, liberal arts
Billie Smith, choral music
Fritz Snodgrass, track
Soroptomers of Wichita, general
Soris Alumni Award, general
Josephine A. Stabler, liberal arts
Dave Stillwell, basketball
Clayton Staples, art
Associate of the American Society of Arts and Letters
Charles and Helen Graves, general
Dr. Ronald Summers, athletics
Blaine A. Swoboda, education
Robert S. Swoboda, education
Carol A. Swoboda, education
Verda Colaw Memorial, engineering
Dr. Robert T. Swoboda, education
John and Mary Tatlock, horticulture
Dr. Ronald Summers, athletics
John J. Taylor Memorial, general
Sawalahtownd Award for Excellence, fine arts
Dr. Ronald Summers, athletics
Swett Prize, general
Glady's Taggart, physical education
Paul Tash, trap, baseball
Dr. Robert Holmer, education
John and Mary Tatlock, geology
Dr. Ronald Summers, athletics
Television Scholarship, education
B. C. Spearman, pre-law
Thursday Afternoon Music Club/Mabel Wright, fine arts
J. Dean Rickman, general
Dr. Robert Holmer, education
Bill Umphrey, physical education
Van Noy Scholarship, pre-med
Haro J. and Mary Varniani, engineering/health
Walter A. Ver Wiebe, geology
Jack R. Vetter Football Memorial, general
Vocal Performance Majors, music
David Wainwright Memorial, ROTC
Dwane and Velma Wallace, engineering
Hazel Waipole, athletics
Wesley Women’s Association, maternal/nursing
Wesley Women’s Association, nursing
Wichita Gem and Mineral Society, geology
Wichita Oil Secretaries Association, business
Fern Worden and Frederick Wieland, education
Grace Wilkie Women’s Scholarship, general
J. Roscoe Williams, business
George Winer, speech/drama
Ben and Helen Wilson Football Memorial, athletics
Mary Wittenbach, psychology
Women’s Aeronautical Association, engineering
Frances O. Woodard, economics
J. Dean and Dixie Worden, business
Jack R. and Barbara J. Worden, liberal arts
Mack W. and Grace M. Worden, liberal arts
Elmer and Mabel Worthington, music
Paul R. Wunsch, music

Student Affairs

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Admission to Wichita State does not mean automatic room reservation. Each student admitted will receive notification concerning housing from the Office of Admissions and the proper forms must be filed in and returned to the housing office to reserve a room. Students are encouraged to apply early since space is limited.

Requests for information should be sent to:

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

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

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

Center for Continuing Engineering Education

The Center for Continuing Engineering Education has as its objectives:

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

Center for Entrepreneurship and Small Business Management

The Center for Entrepreneurship and Small Business Management is within the W. Frank Barton School of Business, and will be housed in Devlin Hall, August 1989. The center is committed to promoting an environment that encourages private enterprise and that seeks to preserve and enhance entrepreneurial activities. The center provides a comprehensive curriculum in entrepreneurial studies, as well as a minor in entrepreneurship for business majors and a sequence in entrepreneurship for MBA students.

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

Additional programs include a visiting lecture series, a complete resource center and scholarships. The Association of Collegiate Entrepreneurs, an international resource and information network for young entrepreneurs, is headquartered at the center.

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

Center for Human Appraisal

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

Center for Management Development

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

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

Center for Women's Studies

The Center for Women's Studies serves to promote research and other activities related to women and their concerns, to foster closer ties between academic and community efforts with respect to
women's needs, to act as an informational referral agent and to enhance the overall awareness of campus and community to the current needs of women in the areas of education, jobs and life choices. The center is responsible for administering the BA in women's studies and supervises the work of students pursuing a concentration in women's studies in various graduate areas. The center maintains a small resource library of books and periodicals open to students, faculty and others; sponsors seminars, workshops and lectures; and provides community and campus speakers.

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

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

Hugo Wall Center for Urban Studies
The Wichita State University's role as a comprehensive urban institution was outlined by the Kansas Board of Regents in 1970: "As the Regents' urban institution, The Wichita State University's mission includes development of programs utilizing the unique resources of the urban area ...." The Center for Urban Studies was formed in 1955 and has become a leading contributor to the urban mission articulated by the Board of Regents. The center conducts instruction, research and service programs, integrating these three essential University functions in responding to the needs of students and the urban environment. The Master of Public Administration degree is administered through the center and its faculty in public administration and urban affairs. Service programs of the center include public affairs seminars, workshops for governmental personnel, professional development seminars for governmental managers and a variety of other programs designed to link the resources of the University to urban governments. The faculty and staff of the center are engaged in a wide range of research on state and local government in Kansas, including research and analysis of boards and commissions in the City of Wichita, a history of the property tax in Kansas, a labor market analysis to guide economic development policy in the City of Wichita, a political history of Wichita and a study of and compilation of selected papers of former Kansas Governor John Carlin.

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

1. Center for Basic and Applied Research which conducts research in the basic areas of aviation, with a focus on low speed aerodynamics, flight simulation, structures and advanced materials for airframe construction.
2. Center for Aviation Safety Research which conducts research on topics related to aviation safety, with a focus on crashworthiness of aircraft structures, deicing, stall-spin prevention and aviation software reliability.
3. Center for Productivity Enhancement which supports research and technology transfer in computer-aided design, computer-aided manufacturing, robotics, artificial intelligence, use of composite materials and related manufacturing technologies.
4. Center for Management and Human Resource Development which conducts research on issues of quality control, analysis and forecasting and international marketing as applicable to the aviation industry.
5. Center for Aviation Education and Training which provides educational, training and publication programs to aid in the transfer and dissemination of knowledge developed with the other centers of the institute.

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

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

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

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

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

Research Administration
The Office of Research Administration assists the faculty in developing sponsored research, training and other service proposals. The office collects, maintains and provides information regarding the programs, interests and
needs of governments, private foundations and businesses; coordinates the preparation and submission of project proposals; and handles the general administration and reporting of sponsored grants and contracts.

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

The center at WSU works with businesses located in the 17 counties of southcentral Kansas. Also located at WSU is the state headquarters of the Kansas Small Business Development Centers, which oversees activities of the eight regional SBDCs and 12 associate centers in Kansas. These 20 centers are located primarily at academic institutions throughout the state.

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

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

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

Cable Television
The Wichita State University operates Channel 13 on Wichita’s cable television system. WSU 13 broadcasts 126 hours per week of adult-oriented educational, cultural and informational programming. This programming includes 10 to 15 television courses per semester offered for academic credit by the various colleges at WSU. Channel 13 also produces programs featuring distinguished guest speakers, fine arts performances and other campus events. WSU 13 is affiliated with The Discovery Channel, BizNet and Campus Network, nationally delivered program services. In addition to full-time staff, 15 students are involved in the operation of the channel and the production of programs. Facilities are located in the Media Resources Center.

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

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

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

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

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

Computer Laboratory Facilities
The Department of Electrical Engineering in the College of Engineering has a microcomputer laboratory consisting of fourteen Zenith 151 or 158-XT compatible microcomputers and eight printers. Each microcomputer has a 20MB hard disk, flexible disk drive, color display and 640KB RAM. Software packages include word processing and spreadsheet with graphics, as well as systems analysis programs written by departmer
Computing Center
The University Computing and Telecommunications Center serves students, faculty, and staff of the University by providing contemporary computing services for instruction, research and sponsored programs, administrative data processing and public service. These services include consultation, systems analysis and design, programming, interactive time-sharing, batch computer operations, an on-line administrative data base and assistance to computer users in their preparation of requests for competitive bids for the acquisition and selection of computer-related equipment.

The central processing unit is an IBM 3081-D with 16 million characters of main storage and more than 30 billion characters of on-line disk storage. Magnetic tape drives, line printers and an off-line digital plotter are available for general use. A network of more than 700 terminals provides interactive computing for campus classrooms, laboratories and offices. These terminals may be used with the academic time-sharing system (CMS), interactive computer graphics, computer-assisted instruction and the administrative terminal system (CICS). Interactive terminal facilities for students and faculty are located in Ablah Hall, the Barton School of Business, the College of Engineering, the departments of chemistry, mathematics, physics, geology and anthropology and in the Social Science Laboratory, where a line printer is located. More than 700 microcomputers are integrated into the instructional and research areas on campus. Facilities are available to permit transfer of information between the central computer and microcomputers equipped for communications.

The computing center terminal facility is located in Neff Hall. Color graphics terminals, a color graphics printer and several other CRT terminals are available in Room 114. CRT terminal facilities and hard copy terminals are located in Room 113. Both rooms are open and available 24 hours a day, seven days a week. Scientific programming and consulting services for faculty and staff instructional and research projects are located in Room 119. Student programming assistance and academic user services are located in Room 115. Batch and remote batch jobs may be submitted 24 hours a day. Printer and plotter output may be picked up from the dispatch window at Room 108 during scheduled hours.

Edwin A. Ulrich Museum of Art
The Edwin A. Ulrich Museum of Art is recognized nationally for the outstanding quality of its programs. In 1984, approximately 135,000 people visited its galleries. During its first 13 years of existence, the Ulrich Museum has presented more than 400 exhibitions, ranging in scope from the poetic paintings of Joan Miro to the hyper-realist sculptures of Duane Hanson.

The museum has had one-person exhibitions of work by Joan Miro, David Hockney, Milton Avery, Kenneth Noland, Morris Louis, Isobel Bishop, Frederick Church, Childe Hassam, Alice Neel, Robert Motherwell, Alberto Giacometti, Gaston Lachaise, plus the work of many other famous artists.

Although the emphasis has been on contemporary art, there have been exhibitions as diverse as prehistoric American Indian pottery, treasures from Spanish galleons sunk in 1724, art from 16th and 17th century Antwerp, artifacts from the Civil War ironclad U.S.S. Monitor, holography, electronic art, African art and the art of New Guinea. In addition, there have been numerous photographic, print and ceramic exhibitions.

The on-campus museum is named after Edwin A. Ulrich, a retired New York businessman, who gave the University more than 300 paintings and $1,147,000 to support the collection. The Ulrich gift, valued at $4 million, is one of the largest single donations ever made to the University.

The Wichita State University Endowment Association art collection numbers over 6,000 items. Twentieth century American art forms the core of the collection augmented by hundreds of other paintings, drawings, prints, sculptures, photographs and ceramics. Of special note, the Ulrich Museum contains the most complete collection of paintings by the world famous American marine artist, Frederick Judd Waugh (1861-1940). The museum also houses extensive groups of work by such artists as Kathe Kollwitz, Charles Grafly, Harry Sternberg and Robert Woodnough.

Reaching beyond the traditional museum's walls, the University has an outdoor sculpture collection which is one of the best in the nation. The collection is a cross-section of 20th century sculpture, featuring works by Auguste Rodin, Henry Moore, Louise Nevelson, Joan Miro, George Rickey, Fernando Botero, Barbara Hepworth, Chaim Gross, Theodore Roszak, William Zorach, Ernest Trova, Robert Indiana, Luis Jimenez, Lynn Chadwick and many others.

The largest and most significant outdoor work is the marble and glass mosaic, Personnages Oiseaux created especially for the facade of the Ulrich Museum by the late Spanish artist, Joan Miro. The mosaic, the largest in the work by Miro, is constructed of one million pieces of colored Venetian glass.

Another aspect of the museum is its visiting artist program. More than 50 artists have visited WSU, including Henry Moore, Louise Nevelson, Luis Jimenez, Isobel Bishop, Duane Hanson, Gordon Parks, W. Eugene Smith, Arnold Newman, Milton Glaser, Paul Rand, Alice Neel, Theodore Stamos and Will Barnet. The museum also has organized traveling exhibitions of work by such artists as Duane Hanson, Gordon Parks and Ernest Trova.

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

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

Heskett Center
The $10 million multipurpose dance, physical education and recreation complex opened in the spring of 1983. It is named after H. D. Heskett, a 1935 alumnus and benefactor of WSU.

The 166,000 square foot complex contains instructional, research and recreational areas as well as the equipment necessary to support activities.
Activity areas consist of a weight room, combatives room, 25-meter indoor swimming pool with separate diving well, a 200-meter indoor jogging track which surrounds five basketball courts and eight handball-racquetball courts. The outdoor area contains a six-court lighted tennis complex and four large lighted play fields.

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

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 a residential facility specializing in habilitation and rehabilitation of children with speech, language and hearing disorders. The institute is University-related through its affiliation with the College of Education's Department of Communicative Disorders and Sciences, which offers academic preparation for Wichita State students desiring to work with communicatively handicapped children and adults. Observation and practicum opportunities are provided at the institute as part of the professional preparation of students in speech and language pathology and audiology.

KMUW Radio Station
KMUW Radio broadcasts at 90.1 FM. The 100,000-watt station is one of more than 300 public radio stations that make up the National Public Radio network. It serves the greater Wichita area and outlying communities in a 60-mile radius. KMUW programming includes classical and jazz music, news and public affairs, plus coverage of special events at Wichita State.

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

Facilities and resources include two professional television studios, five satellite downlinks, the campus cable TV network, a fully equipped mobile television production facility, complete photographic darkroom laboratories and a graphic design studio. The MRC provides the University with video teleconference reception and transmission capabilities.

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

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

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

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

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

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

Social Science Research Laboratory
The Social Science Research Laboratory (SSRLab) supports instruction in research methods and provides faculty, staff, students and off-campus patrons assistance and consultation regarding research issues and questions.

The SSRLab houses the Test Grading Service for instructors who wish to use the multiple form bubble sheets as test answer sheets. The answer sheets are scanned and the instructor is provided with scores and statistical analyses consisting of the grades (in name and social security number order) and a complete item analysis of the exam. This type of service and consultation is available to individuals working on research projects also. For faculty and staff who work with microcomputers, the SSRLab is able to up and down load files to and/or from the University's mainframe.

The lab organizes, administers and scores the Student Perception of Teaching Effectiveness evaluations to provide the instructor a profile of their teaching skills in comparison to others in the same department, the same college and the entire University. Upon request, consultation is offered regarding the profile analysis.

The SSRLab houses 15 terminals connected to the mainframe, an NCS Sentry 7006 scanner, several Zenith microcomputers and two IBM printers, a 3262 and a 4224.

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

All work is supervised by departmental faculty who hold appropriate national certification.

Sports and Recreation
Sports and recreation facilities for students at Wichita State include a regulation 18-hole golf course; the 10,575-seat Eck Stadium-Tyler Field which has an artificial surface infield and grass outfield for Shocker baseball.

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

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

Walter H. Beech and Supersonic Wind Tunnels; Water Tunnel

Various 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' 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, are available.

A new 1 x 1.3 meter subsonic wind tunnel has recently been completed. This facility features a laser velocimetry system for flow measurement. Two smoke tunnels, a boundary layer tunnel, a water table and a new water tunnel are also available for flow visualization studies. The 2' x 3' water tunnel, which began operation in 1987, is excellent for flow visualization. Dye filaments are introduced into the flow and data is taken with cameras and videotape recordings.

Wichita Radio Reading Service

A sub-carrier of KMUW, the Wichita Radio Reading Service programs readings of printed material to more than 2,000 print-handicapped individuals. WRSS, a 24-hour daily service, also produces such creative programs as poetry and radio drama.

Wiedemann Hall

Wiedemann Hall houses the first organ Wiedemann Hall in America, built in North America by the world-renowned firm of Marcussen and Son, Denmark. The hall, which was dedicated in 1986, is the ideal acoustical setting for announcing, recording and televising.

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

Student Activities and Organizations

Student organizations may be granted the privileges of a University organization if registered with the Student Government Association (SGA), providing lists of officers and other executive members, statements of purposes and copies of constitutions and bylaws. Once an organization is 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 Association

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

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

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

For more information contact the Student Government Association, Room 202, Campus Activities Center, The Wichita State University, (316) 892-3480.

Student Rates

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

Fraternities and Sororities

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

Organizations

Honorary

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

Professional and Departmental

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

Special Interest
A Cappella Choir
Admissions Corps
African Student Association
Alliance Francaise
Amnesty International
Ananda Marga Yoga Society
Aquatics Club
Bahai Club
Baptist Student Union
Brass Chamber Ensemble
Campus Girl Scouts (Trefoil)
Chamber Singers
Chess Club
Chinese Association of WSU
Christian Science Organization
Circle K (Kiwanis)
College Republicans
College Democrats
Concert Band
Concert Chorale
Crew Club
Ecumenical Christian Ministries, Inc
Episcopal Church of WSU
Experimental Theatre
Fellowship of Christian Athletes
Flying Club
French Study Group
Friends of Africa
Friends of Women's Studies
Frisbee Club
Gay/Lesbian Resource Association
Greek Student Association
Handicapped Students, Association for Hellenic Society
Icthus
Indian Student Association
Indian Student Association
Indonesian Student Association
International Association of WSU
International Student Association
Intervarsity Christian Fellowship
Japanese Student Association
Jazz Arts I
Jazz Arts II
Jazz Combos
Juggeling Club
Korean Student Association
Latter Day Saints Student Association
Madrigal Singers
Malay Student Association
Mecha—Movimiento Estudiantil Chicano de Aztlan

Men's Soccer Club
Mid-America Dance Theatre
Minority Engineering Students Organization
Minority Pre-Health Student Association
Model United Nations
Muslim Student Association
Native American Heritage Association
Nurses Christian Fellowship
Opera Theatre
Pakistani Student Association
Pathfinders
Percussion Ensemble
Physical Therapy Student Christian Fellowship
St. Alban's University Parish
St. Paul's Newman Center
Saxophone Quartet
Skiing Club
Spanish Club
String Ensemble
Student Crime Watch
Student Orientation Leaders Association
Students Against Multiple Sclerosis (SAMS)
Student Alumni Association
Symphonic Band
Syrian Student Association
Tai Chi Club
Thai Students Association
University Forum Board
University Lutheran Center
University Orchestra
University Theatre Main Stage
Veterans on Campus
Vietnamese Student Organization
Wichita Film Society
Wichita Rangers
Wind Energy Club
Wind Ensemble
Women's Resource Center
Woodwind Ensemble
WSU Spirit Squad
WSU Sumner Theatre
Young Democrats
Young Life

Governing
ASK—Associated Students of Kansas
Brennan Community Association
Campus Activities Center Activities Council (Student Activities Council)
Engineering Council
Fairmount Community Association
Interfraternity Council
Interresidence Council
Pan-Hellenic Association
Pan-Hellenic Council
School of Music Student Council
Student Government Association
Student Publications, Board of Student Senate and Senate Committees
University College

William W. Harmon, PhD, Dean

The primary goal of University College is to assist students in their educational endeavors by providing relevant support services. Responding to the diverse needs and goals of both degree and nondegree-bound students requires a well-conceived and flexible system of programs and services.

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

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

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

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

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

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

Admission to University College

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

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

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

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

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

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

Orientation

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

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

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

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

Academic Advising

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

Degree-bound Students: Every semester all degree-bound students enrolled in University College are expected to develop academic plans with the assistance of their academic advisers. Each degree-bound student is assigned an academic adviser. When a student declares a major field of study, he or she is assigned a faculty member in the academic department offering that area of study. Deciding students who have not declared a major area of study are assigned to members of the faculty and staff with academic advising responsibility in University College and other areas within the Division of Student Affairs.
Students planning on professional graduate-level studies (medicine, law, theology, etc.) are assigned to qualified faculty advisers in the selected preprofessional areas for developing strong undergraduate preparation. Students should check with their assigned advisers to see what preprofessional courses should be taken while they are in University College.

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

**Career/Life Planning**

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

University College academic counselors assist students in the exploration of the academic curriculum in preparation for their career choices. The counselors also help to identify people and information resources for further information on academic majors and/or career options. A course in career exploration, UC 102, is offered as part of the program.

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

**General Education Program**

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

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

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

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

**Policies**

**First Semester—Transition Semester**

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

**Advanced Placement and Credit**

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

**Enrollment Limits**

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

**Student Responsibility**

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

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

**Transferring to a Degree-Granting College**

**Degree-bound Students:** All students seeking a degree are expected to qualify for transfer to one of the six undergraduate degree-granting colleges at the end of the semester in which they complete 24 semester hours. To qualify for transfer to a degree-granting college, a student must have completed 24 semester hours successfully; met the minimum GPA required by the college; successfully completed any prerequisite courses and completed the Basic Skills component of the general education program. The latter includes six hours of English composition, three hours of communication and three hours of college-level mathematics. All students must complete the Basic Skills courses no later than the semester in which they will have completed 48 semester hours. Students who have not met these requirements may be limited to enrollment in only the necessary Basic Skills courses until that work has been satisfactorily completed.

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

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

**Nondegree-bound Students:** Those students not seeking degrees may remain in University College beyond 48 hours.

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

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

Transfer students admitted on probation must complete at least 12 semester hours of credit work and achieve a 2.000 grade point average on work at Wichita State before probation is removed.

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

Dismissal: Degree-bound University College students who have accumulated 12 attempted credit hours after being placed on probation (unless other standards were specified as a condition of admission or readmission) and who do not have a 2.000 grade point average for the most recent semester or Summer Session will be academically dismissed. Once degree-bound students accumulate 48 hours, they will be transferred or dismissed from University College. The grading system is explained in the Academic Information section of the Catalog.

Nondegree-bound students are subject to the same probation/dismissal standards as above.

Readmission after Academic Dismissal

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

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

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

University College Courses

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

Credit Courses

100. Freshman Seminar. (1). A study of the University as a resource for personal development and the development of an individual master plan for study and self-development in the University. J 10 100 2 0601

100A. Adult Seminar. (1). A special class for adults who have been out of school for one year or more. Designed to help adults learn more about themselves and about The Wichita State University. Covers career information, interest testing and interpretation, educational planning and other activities. J 10 100A 2 0601

100P. Parents' Course. (1). A study of the issues and experiences which confront new students at The Wichita State University, how these issues may impact on parents and how parents can be constructively supportive during this major, new life experience. J 10 100P 2 0601

102. Topics in Career Exploration. (2). A course designed to involve students in the career/life, educational planning and decision-making process based on career development theories. Various assessments and exercises are used to explore values, interests and skills as they relate to career choice. Students research occupations and gain knowledge of labor market trends. Course content assists in exploration of college major and career path choice or change. Current workplace issues are addressed. J 10 102 1 4999

160. Reading and Study Skills. (3). A course designed for any student who seeks to enhance his/her reading speed, reading comprehension and study skills. Topics include time management, note-taking skills and test-taking strategies which prepare students for both university course work and our fast-paced society. J 10 160 1 1501

Noncredit Courses

The following courses are not applicable to a degree.

050. Personal Assessment Planning. (1 or 3). A course designed to provide specialized developmental instruction, using a variable format. Not an elective. May be required of students admitted or readmitted by action of the University Admissions and Exceptions Committee. J 10 050 2 4999

060. Basic Reading Skills. (3). For students with significant reading skill deficiencies. Students will undergo extensive diagnostic testing and appropriate individualized instruction will be provided based on results of administered tests. J 10 060 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 10 090 0 0601

Credit Courses

100. Freshman Seminar. (1). A study of the University as a resource for personal development and the development of an individual master plan for study and self-development in the University. J 10 100 2 0601

100A. Adult Seminar. (1). A special class for adults who have been out of school for one year or more. Designed to help adults learn more about themselves and about The Wichita State University. Covers career information, interest testing and interpretation, educatio
W. Frank Barton School of Business

Douglas Sharp, PhD, Dean

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

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

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

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

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

Degrees Offered

Baccalaureate

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

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

Associate of Science

Two-year programs in secretarial and legal assistant training, which lead to the Associate of Science, are available. No new admissions are being accepted into the secretarial training program. The secretarial program is offered by the Department of Business Education and the legal assistant program by the Department of Finance, Real Estate and Decision Sciences.

Graduate

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

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

Business Teacher Education

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

Business Emphases in Other University Programs

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

Policies

Admission

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

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

Advanced standing in the Barton School of Business is available to students who have (1) completed 60 semester hours, (2) a cumulative grade point average of 2.250, (3) completed six hours of elementary accounting, six hours of elementary economics, business statistics, business calculus and a business computer programming course and (4) declared a professional major in the college. Note: For degree-seeking students in the Barton School of Business, advanced standing is a prerequisite for all upper-division courses in the school.
Transfer students planning to transfer into the Barton School of Business from another two- or four-year institution to obtain the BBA are advised to complete as much of Wichita State’s general education requirements as possible before transferring. The following course areas are recommended for the first two years of college work:

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

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

Humanities (8 hours)
- Principles of economics (6 hours)
- Psychology, sociology, anthropology, political science (6 hours)

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

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

Limitations on Student Load
Initially admitted Barton School of Business students are limited to a maximum of 16 hours, to which may be added one hour of military studies or physical education. Students admitted to advanced standing in the college are limited to a maximum of 15 hours, to which may be added one hour of military studies or physical education.

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

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

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

Advising is designed to provide assistance where desired and appropriate.

Students, especially those nearing graduation, are encouraged to make full use of the advising system.

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

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

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

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

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

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

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

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

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

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

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

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

Graduation Requirements

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

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

The following sequence of required courses is recommended:

Freshman Year
Math. 111, College Algebra
Math. 144, Business Calculus
Engl. 101-102, College English I-II
Comm. 111, Basic Public Speaking

Sophomore Year
Acct. 210, Financial Accounting I
Acct. 220, Managerial Accounting I
Acct. 260, Introduction to Information Processing Systems for Business

Junior Year
DS 350, Introduction to Production and Operations Management
DS 495, Management Information Systems for Business
Fin. 340, Finance
Mgmt. 360, Concepts of Administration
Mkt. 300, Marketing

Senior Year
Mgmt. 436, Business and Society
Mgmt. 681, Administrative Policy

Students planning to enroll in upper-division business courses (courses numbered 300 to 600) must have completed 60 semester credit hours. Accreditation of the school by the American Assembly of Collegiate Schools of Business stipulates that students must be classified as juniors to enroll in upper-division courses. Exceptions are made to this requirement for any of the following:
1. Students who have completed 60 hours and have enrolled in the required lower-division (100-200 level) courses may enroll in introductory upper-division courses to complete a full schedule.

2. Students with a cumulative grade point average of 3.250 or above may have the junior standing prerequisites waived with the consent of the instructor of the course and the chairperson of the department in which the course is taken.
3. Students may petition the school's Exceptions Committee for special permission to enroll in upper-division courses.

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

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

II. Environment of Business
B. Law 431, Legal Environment of Business or
B. Law 435, Law of Commercial Transactions and

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

IV. Accounting, Quantitative Methods and Information Systems
Acct. 210, Financial Accounting I
Acct. 220, Managerial Accounting I

Senior Year
Mgmt. 436, Business and Society
Mgmt. 681, Administrative Policy

V. Organizational Theory
Mgmt. 360, Concepts of Administration

VI. Business Policy
Mgmt. 681, Administrative Policy

* These courses are prerequisite for upper-division courses.

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

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

School of Accountancy
Two degree programs are offered by the School of Accountancy—the Master of Professional Accountancy (MPA) and the Bachelor of Business Administration with an accounting major. In addition, a minor in accounting is available to students who are not accounting majors. For information about the Master of Professional Accountancy degree, see the Barton School of Business—Master of Professional Accountancy section of the Catalog. Undergraduate students may begin work leading toward the MPA degree early in their academic career.

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

BBA—Accounting Major. Requirements for a major in accounting within the Bachelor of Business Administration degree are as follows:

Required courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct. 310 and 410, Financial Accounting II and III</td>
<td>6</td>
</tr>
<tr>
<td>Acct. 320, Managerial Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 430, Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 560, Accounting Information Systems I</td>
<td>3</td>
</tr>
<tr>
<td>Acct. 640, Auditing I</td>
<td>4</td>
</tr>
<tr>
<td>B. Law 435, Law of Commercial Transactions</td>
<td>3</td>
</tr>
<tr>
<td>B. Law 436, Law of Business Associations</td>
<td>3</td>
</tr>
<tr>
<td>† Upper-division economics elective</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 210, Composition: Business, Professional and Technical Writing</td>
<td>3</td>
</tr>
</tbody>
</table>

† May be counted as part of the Barton School of Business core requirements. Admission requirements for the CPA examination in Kansas specify a course in intermediate economic theory or a course emphasizing the monetary system.

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

Aviation Management Major
Department of Marketing and Small Business

Required courses:

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

Business Administration Major

Required courses:

<table>
<thead>
<tr>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct. 310, Financial Accounting II (3); Acct. 320, Managerial Accounting II (3); Acct. 410, Financial Accounting III (3); Acct. 430, Taxation I (3)</td>
</tr>
<tr>
<td>Econ. 304, Managerial Economics (3); Econ. 340, Money and Banking (3); Econ. 661, Collective Bargaining and Wage Determination (3); Econ. 672, Introduction to International Economics and Business (3); Fin. 640, Financial Management (3); Fin. 641, Investments (3); Fin. 643, Capital Markets and Financial Institutions (3)</td>
</tr>
<tr>
<td>Mgmt. 462, Leadership and Motivation (3); Mgmt. 464, Organizational Communication (3); Mgmt. 665, Organizational Development (3); Mgmt. 667, Organizational Structure and Design (3); Mgmt. 680, Decision Making (3); Mgmt. 683, Comparative and International Management (3); Pers. 466, Personnel Management (3)</td>
</tr>
<tr>
<td>Mkt. 403, Marketing Research (3); Mkt. 405, Consumer Behavior (3); Mkt. 698, Marketing Programs (3)</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct. 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Econ. 201Q, 202Q</td>
<td>6</td>
</tr>
<tr>
<td>Three of the following four courses (DS 350, Fin. 340, Mgmt. 360, Mkt. 300)</td>
<td>9</td>
</tr>
<tr>
<td>Electives from upper-division business courses</td>
<td>6</td>
</tr>
</tbody>
</table>

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

Business Education Major

Department of Business Education

Required courses for the secretarial major are:

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

Business Education Minor. In addition to following the major in business teacher education with emphasis in secretarial science described above, students may minor in business education. Students planning to teach business education as a second subject in secondary schools are required to take 24 hours of business courses, including Acct. 210 and 220; Econ. 201Q; Bus. E. 139 and 237; and nine hours from business administration courses or shorthand, of which one course must be upper division.

Economics Major

Department of Economics

A major requires a minimum of 21 upper-division hours in economics beyond the college core. Within the 124 hours required for graduation, a maximum of 41 hours in economics are allowed, counting the courses in the college core. The following courses are required and must be included in the 124 hours:
Elective, any School of Business course numbered 400 or above 3

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

Course                              Hrs.
Fin. 444, Contemporary Issues in Banking 3
Fin. 644, Commercial Bank Management 3
Econ. 340, Money and Banking 3

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

International Business Major
Department of Management

Required courses:                          Hrs.
Fin. 648, International Finance 3
Mgmt. 561, Introduction to International Economics and Business 3
Mgmt. 683, Comparative and International Management 3
Mkt. 601, International Marketing 3

Directed electives:
Two of the following courses selected in consultation with the student's major adviser. 6
Econ. 615, Economics of Transportation 3
Econ. 671, Economic Growth and Development 3
Geog. 580, Economic Geography 3
Mgmt. 492, Internship in Management 3
Mkt. 403, Marketing Research 3

Upper-division business elective 3

Within the student's total degree program, at least ten hours are required in a foreign language. An additional six hours of culture/area studies related to a geographic area also are required.

Management Major
Department of Management

Seven courses selected from the following:

Course                              Hrs.
Mgmt. 462, Leadership and Motivation 3
Mgmt. 464, Organizational Communication 3
Mgmt. 665, Organizational Development 3
Mgmt. 667, Organizational Structure and Design 3
Mgmt. 680, Decision Making 3
Mgmt. 683, Comparative and International Management 3

Pers. 466, Personnel Management 3
Pers. 468, Compensation Administration 3
Pers. 664, Labor Relations 3

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

Marketing Major
Department of Marketing and Small Business

Required courses:                          Hrs.
Mkt. 403, Marketing Research 3
Mkt. 405, Consumer Behavior 3
Mkt. 609, Marketing Programs 3

Electives, from the following: 6
Mkt. 404, Retail Management 3
Mkt. 407, Marketing for Service and Nonprofit Organizations 3
Mkt. 601, International Marketing 3
Mkt. 604, Distribution Management 3
Mkt. 606, New Product Marketing 3
Mkt. 607, Promotion Management 3
Mkt. 608, Selling and Sales Force Management 3

Electives, selected with consent of major adviser 6

Personnel Administration Major
Department of Management

Required courses:                          Hrs.
Pers. 466, Personnel Management 3
Pers. 664, Labor Relations 3
Pers. 666, Selection, Training and Placement 3

Electives, from the following: 6
Mgmt. 462, Leadership and Motivation 3
Mgmt. 464, Organizational Communication 3
Mgmt. 663, Organizational Interactions 3
Mgmt. 665, Organizational Development 3
Mgmt. 667, Organizational Structures and Design 3

Electives, selected with consent of major adviser 6

Real Estate and Land Use Economics Major
Department of Finance, Real Estate and Decision Sciences

Required courses:                          Hrs.
RE 310, Principles of Real Estate 3
RE 611, Real Estate Finance 3
RE 614, Real Estate Appraisal 3

Directed electives, two of the following courses 6
RE 438, Real Estate Law 3
RE 618, Real Estate Investment Analysis 3

Department of Finance, Real Estate and Decision Sciences

Required courses:                          Hrs.
Fin. 640, Financial Management 3
Fin. 641, Investments 3
Fin. 643, Capital Markets and Financial Institutions 3

* All finance majors are required to complete Econ. 340, Money and Banking, as part of the Barton School of Business core requirements.

Electives, from the following: 6
Acct. 310, Financial Accounting II 3
Acct. 410, Financial Accounting III 3
B. Law 435, Law of Commercial Transactions 3
B. Law 436, Law of Business Associations 3
Econ. 631, Intermediate Business Statistics 3
Fin. 444, Contemporary Issues in Banking 3
Fin. 644, Commercial Bank Management 3
Fin. 645, Security Analysis and Valuation 3
Fin. 648, (Econ. 674), International Finance 3
RE 611, Real Estate Finance 3
RE 618, Real Estate Investment Analysis 3

Econ. 301, Intermediate Macroeconomics 3
Econ. 302, Intermediate Microeconomics 3
Econ. 340, Money and Banking 3

Upper-division electives in economics beyond the college core 12

Economics Minor. A minor in economics is available to any student whose major field or area of emphasis is outside of economics. A minor consists of 15 hours of economics exclusive of Econ. 101G, 102Q and 231. Econ. 201Q and 202Q (or equivalent) must be included.

Teaching of Economics. Because Kansas Department of Education regulations governing the certification of secondary economics teachers are very specific and contain requirements beyond the economics major, students planning to be teachers of economics should contact a secondary social studies adviser in the College of Education for program planning.

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

Finance Major

Department of Finance, Real Estate and Decision Sciences

Required courses:                          Hrs.
Fin. 640, Financial Management 3
Fin. 641, Investments 3
Fin. 643, Capital Markets and Financial Institutions 3

Electives, from the following: 6
Acct. 310, Financial Accounting II 3
Acct. 410, Financial Accounting III 3
B. Law 435, Law of Commercial Transactions 3
B. Law 436, Law of Business Associations 3
Econ. 631, Intermediate Business Statistics 3
Fin. 444, Contemporary Issues in Banking 3
Fin. 644, Commercial Bank Management 3
Fin. 645, Security Analysis and Valuation 3
Fin. 648, (Econ. 674), International Finance 3
RE 611, Real Estate Finance 3
RE 618, Real Estate Investment Analysis 3

Mgmt. 462, Leadership and Motivation 3
Mgmt. 464, Organizational Communication 3
Mgmt. 665, Organizational Development 3
Mgmt. 667, Organizational Structure and Design 3
Mgmt. 680, Decision Making 3
Mgmt. 683, Comparative and International Management 3

Pers. 466, Personnel Management 3
Pers. 468, Compensation Administration 3
Pers. 664, Labor Relations 3

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

Marketing Major

Department of Marketing and Small Business

Required courses:                          Hrs.
Mkt. 403, Marketing Research 3
Mkt. 405, Consumer Behavior 3
Mkt. 609, Marketing Programs 3

Electives, from the following: 6
Mkt. 404, Retail Management 3
Mkt. 407, Marketing for Service and Nonprofit Organizations 3
Mkt. 601, International Marketing 3
Mkt. 604, Distribution Management 3
Mkt. 606, New Product Marketing 3
Mkt. 607, Promotion Management 3
Mkt. 608, Selling and Sales Force Management 3

Electives, selected with consent of major adviser 6

Personnel Administration Major

Department of Management

Required courses:                          Hrs.
Pers. 466, Personnel Management 3
Pers. 664, Labor Relations 3
Pers. 666, Selection, Training and Placement 3

Electives, from the following: 6
Mgmt. 462, Leadership and Motivation 3
Mgmt. 464, Organizational Communication 3
Mgmt. 663, Organizational Interactions 3
Mgmt. 665, Organizational Development 3
Mgmt. 667, Organizational Structures and Design 3

Electives, selected with consent of major adviser 6

Real Estate and Land Use Economics Major

Department of Finance, Real Estate and Decision Sciences

Required courses:                          Hrs.
RE 310, Principles of Real Estate 3
RE 611, Real Estate Finance 3
RE 614, Real Estate Appraisal 3

Directed electives, two of the following courses 6
RE 438, Real Estate Law 3
RE 618, Real Estate Investment Analysis 3
Master of Professional Accountancy

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

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

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

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

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

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

Admission Requirements

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

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

1. Completion of the preprofessional curriculum described below
2. A minimum grade point average of 2.750 on all courses identified as Barton School of Business core courses
3. A minimum grade point average of 3.000 on the following courses: Acct. 310, 320, 410 and 430.
4. A total of 1,100 points based on the formula of 200 times the overall grade point average (4,000 system) on the last 60 hours plus the Graduate Management Admission Test (GMAT) score

Students who meet all the requirements above except lacking no more than nine hours of the preprofessional curriculum may be admitted on a conditional basis. These nine hours must be completed in the first semester following conditional admission or as soon thereafter as course scheduling permits.

Probationary Admission

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

Degree Requirements—Students Not Possessing a Baccalaureate Degree at Time of Admission

Preprofessional Curriculum

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

1. The candidate must complete the general education requirements for The Wichita State University, plus additional nonbusiness courses, for 56 semester hours. The following courses are specifically required by the School of Accountancy and may be counted within this 56 hours:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Econ. 201Q and 202Q, Principles of Economics I and II</td>
<td>6</td>
</tr>
<tr>
<td>Engl. 210, Composition: Business Professional and Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 685Q, Advanced Composition</td>
<td>3</td>
</tr>
<tr>
<td>Math. 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Math. 144, Business Calculus</td>
<td>3</td>
</tr>
<tr>
<td>Phil. 144Q, Moral Issues</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Act. 210, Financial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>Act. 220, Managerial Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>Act. 260, Introduction to Information Processing Systems</td>
<td>3</td>
</tr>
<tr>
<td>DS 350, Introduction to Production Management</td>
<td>3</td>
</tr>
<tr>
<td>DS 495, Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 231, Introductory Business Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division economics course*</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 340, Finance</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 360, Concepts of Administration</td>
<td>3</td>
</tr>
<tr>
<td>Mgmt. 430, Business and Society</td>
<td>3</td>
</tr>
<tr>
<td>Mkt. 300, Marketing</td>
<td>3</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preprofessional Accounting Core</td>
<td></td>
</tr>
<tr>
<td>Act. 310 and 410, Financial Accounting I</td>
<td>6</td>
</tr>
<tr>
<td>Act. 320, Managerial Accounting II</td>
<td>6</td>
</tr>
<tr>
<td>Act. 390, Taxation I</td>
<td>3</td>
</tr>
<tr>
<td>Act. 560, Accounting Information Systems I</td>
<td>3</td>
</tr>
<tr>
<td>Act. 640, Auditing I</td>
<td>4</td>
</tr>
<tr>
<td>Acc. 890, Professional Seminar</td>
<td>1</td>
</tr>
<tr>
<td>Accounting electives (800 level)</td>
<td>15</td>
</tr>
<tr>
<td>B. Law 435 and 436, Law of Associations I</td>
<td>6</td>
</tr>
<tr>
<td>DS 871, Multivariate Statistical Methods or approved equivalent</td>
<td>3</td>
</tr>
</tbody>
</table>

Professional Program

Candidates in the professional curriculum who have completed the minimum preprofessional curriculum as outlined above, must complete 59 hours in the following courses while maintaining an overall grade point average of 3.000 or better.

Course                                      | Hrs |
--------------------------------------------|-----|
Professional Accounting Core                |     |
Act. 510, Financial Accounting IV           | 3   |
Act. 560, Accounting Information Systems I | 3   |
Act. 640, Auditing I                        | 4   |
Act. 890, Professional Seminar              | 1   |
B. Law 435 and 436, Law of Associations I  | 6   |
DS 871, Multivariate Statistical Methods or approved equivalent | 3   |
As a minimum, the candidate's total program must include 30 graduate-level hours, including five hours of accounting and a total of 22 semester hours of courses numbered 800 or above and a total of 20 semester hours of courses numbered 500 or above.

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

### Associate of Science in Legal Assistant

A legal assistant program is offered through the Department of Finance, Real Estate and Decision Sciences to prepare students for law-related employment in law firms, corporations and government. The 64-hour program is geared to the role concept of the legal assistant who is not a lawyer but who is trained to handle extensive professional responsibilities under the supervision of a lawyer. Some of the tasks a graduate of the program might be expected to perform are legal research, preparing briefs, interviewing clients and witnesses, preparing corporate instruments, drafting wills and probate instruments, drafting pleadings and interrogatories, filing papers, assisting in trial preparation and numerous other matters of challenge and responsibility. The program has been granted approval by the American Bar Association.

### Degree Program Admission

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

Initial admission to the Barton School of Business requires (1) completion of 24 semester credit hours, (2) a cumulative grade point average of 2.25 and (3) completion of six hours of English composition, three hours of communication and three hours of college algebra with at least a grade of C in each course. Students may apply for admission to the Legal Assistant Program during the semester that these three requirements will be completed.

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

The associate director/adviser is available to counsel beginning as well as advanced students, to ensure their basic skills and general education course work progress toward the legal courses in a logical and meaningful way. Appointment for preregistration are recommended.

### Nondegree and Single Course Admission

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

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

### Degree Requirements

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. General Education Requirements (30 hours)</td>
<td></td>
</tr>
<tr>
<td>Basic Skills (12 hours)</td>
<td></td>
</tr>
<tr>
<td>Engl. 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking, or Comm. 112, Basic Interpersonal Communication</td>
<td></td>
</tr>
<tr>
<td>Math 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Division A—Humanities and Fine Arts: &quot;G&quot; or &quot;Q&quot; course electives</td>
<td>3-12</td>
</tr>
<tr>
<td>Division B—Social and Behavioral Sciences: &quot;G&quot; or &quot;Q&quot; course electives</td>
<td>3-12</td>
</tr>
<tr>
<td>Division C—Mathematics and Natural Sciences: &quot;G&quot; or &quot;Q&quot; course electives</td>
<td>3-12</td>
</tr>
<tr>
<td>II. Professional Curriculum (34 hours)</td>
<td></td>
</tr>
<tr>
<td>A. Required Courses (16 hours)</td>
<td></td>
</tr>
<tr>
<td>B. Law 130Q, Introduction to Law</td>
<td>3</td>
</tr>
<tr>
<td>Legal 230, Introduction to Paralegalism</td>
<td></td>
</tr>
</tbody>
</table>

*Legal 233, Litigation I | 3 |
*Legal 240, Substantive Law: Torts | 3 |
Acct. 210, Financial Accounting I | 3 |
B. Required Courses or Validated Equivalents (6 hours) | |
Legal 233, Legal Assistant Internship | 3 |
Legal 244, Legal Assistant Computer Skills | 3 |
Legal assistant internship is a requirement for students who do not have the law-related work experience equivalent. Proficiency in utilization of a microcomputer is also a graduation requirement. Work experience in a law office may be validated to satisfy the internship requirement. Computer skills may be validated to satisfy the computer requirement. Academic credit will not be granted where these requirements are met by validation.

### Professional Electives (12-18 hours)

- *Legal 232, Legal Aspects of Business Organizations | 3 |
- *Legal 235, Law Office Administration | 3 |
- *Legal 236, Litigation I | 3 |
- *Legal 237, Family Law | 3 |
- *Legal 238, Legal Assistant Program | 3 |
- *Legal 241, Legal Research and Writing I | 3 |
- *Legal 243, Property Law | 3 |
- B. Law 431, Legal Environment of Business | 3 |
- B. Law 435, Law of Commercial Transactions | 3 |
- B. Law 436, Law of Business Associations | 3 |
- AJ 220Q, Criminal Law | 3 |
- AJ 320, Criminal Procedure | 3 |
- Acct. 260, Introduction to Information Processing Systems for Business | 3 |
- Mgmt. 360, Concepts of Administration | 3 |

### D. The 34-hour professional curriculum must include a minimum of 18 hours of legal specialty courses. Legal specialty courses are identified with an asterisk (*). 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 an extensive professional responsibilities to counsel beginning as well as advanced students, to ensure their basic skills and general education course work progress toward the legal courses in a logical and meaningful way. Appointment for preregistration are recommended.
opportunity to receive high quality secretarial preparation in a college atmosphere. At the same time the program is designed with a view toward helping students attain the status of Certified Professional Secretary. The degree requirements are summarized as follows:

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

* Not needed if student has one unit in high school or equivalent.

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 Information section of the Catalog for special conditions under which seniors may be admitted to graduate courses.)

Accounting
School of Accountancy

Lower-Division Courses

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

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

260. Introduction to Information Processing Systems for Business. (3). An introduction to the use of electronic information processing systems in solving business problems and meeting the informational needs of the modern business environment. Prerequisites: sophomore standing, Math 109 or 111. Academic Standing and admission to the Barton School of Business. B 11 260 0 0502

Upper-Division Courses


320. Managerial Accounting II. (3). An in-depth study of the accumulation and allocation of cost data for determining the value of goods and services produced, and for using these data to analyze operations. Prerequisites: junior standing, Math 109 or 111, Acct. 210 and Acct. 260 or concurrent enrollment. B 11 320 0 0502

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

410. Financial Accounting III. (3). A continuation of Acct. 310. Liabilities, equity and financial statements are emphasized. Prerequisites: Acct. 310 and 260; Math 109 or 111; junior standing. B 11 410 0 0502

430. Taxation I. (3). An examination of the federal income tax law relating to individual income taxation. Prerequisites: Acct. 210 and 260 or current enrollment; Math 109 or 111; junior standing. B 11 430 0 0502

491. Independent Study in Accounting. (1-3). Individual study for CNCR only. Prerequisites: 2,750 grade point average in accounting, junior standing and School of Accountancy consent. B 11 491 3 0502

Courses for Graduate/Undergraduate Credit


560. Accounting Information Systems I. (3). A study of the content, design and controls of accounting systems, with emphasis on the use of computers for processing financial data. Prerequisites: Acct. 220 and 260; Math 109 or 111; senior standing. B 11 560 0 0502

640. Auditing I. (4). 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: Acct. 260, 410, 560; Math. 109 or 111; senior standing. B 11 540 0 0502

690. Seminar in Selected Topics. (1-3). Repeatable for credit with School of Accountancy consent. B 11 690 0 0502

Courses for Graduate Students Only

Where a course is indicated as a prerequisite to a second course, all prerequisites to the earlier course(s) also apply to the latter course(s).

900. 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. May not be taken for credit in the School of Accountancy. Prerequisite: no previous credit in accounting or permission of the School of Accountancy. 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 income determination are covered. May not be taken for credit in the School of Accountancy. Prerequisite: Acct. 600 or equivalent. B 11 801 0 0502

810. Financial Accounting V. (3). A continuation of the financial accounting sequence. Emphasis is on accounting for leases, pension plans, foreign currency and futures contracts; segment reporting; solvency; and calculating earnings-per-share. Prerequisites: graduate standing and Acct. 510 (or equivalent) or permission of the School of Accountancy. B 11 810 0 0502

theory and their application to problems of income determination and asset/liability valuation. Prerequisites: junior standing, and Acct. 510 (or equivalent) or permission of the School of Accountancy. B 11 815 9 0502

520. Managerial Accounting III. (3). Advanced study of the theory of income determination and cost accountability. Prerequisite: junior standing and Acct. 320 (or equivalent), or permission of the School of Accountancy. B 11 820 0 0502

825. Managerial Accounting IV. (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. Prerequisites: graduate standing and Acct. 320 (or equivalent), or permission of the School of Accountancy. B 11 825 9 0502

830. Taxation II. (3). A study of the federal tax law as it applies to corporations, partnerships, estates, trusts and gifts. Prerequisites: graduate standing and Acct. 430 (or equivalent), or permission of the School of Accountancy. B 11 830 0 0502

835. Taxation III. (3). The application of research and planning techniques to federal tax law. Selected topics in federal taxation are also examined. Prerequisites: graduate standing and Acct. 830 (or equivalent), or permission of the School of Accountancy. B 11 835 0 0502

840. Auditing II. (3). An advanced study of auditing with emphasis on EDP auditing, statistical sampling and ethics. Prerequisites: graduate standing and Acct. 510 and 840 (or equivalent), or permission of the School of Accountancy. B 11 840 0 0502

860. Accounting Information Systems II. (3). A study of the concepts of information systems, their design and operation and the relationship of these concepts to the economic information requirements, information flows, decision criteria and control mechanisms in the business organization. Prerequisites: graduate standing and Acct. 560 (or equivalent), or permission of the School of Accountancy. B 11 860 0 0502

880. Researching Contemporary Issues 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. Prerequisites: graduate standing and Acct. 560 (or equivalent), or permission of the School of Accountancy. B 11 880 9 0502

890. Professional Seminar. (1). An orientation to the accounting profession with sessions covering a variety of technical and general issues in accounting and conducted by practitioners. MPA candidates must attend a specified number of sessions throughout their professional program, but actually enroll for one credit (minimum 25 sessions). Prerequisite: MPA program or permission of the School of Accountancy. B 11 890 9 0502

891. Directed Study in Accounting. (1-3). Prerequisite: School of Accountancy consent. B 11 891 3 0502

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

Career Management Department of Marketing and Small Business

Lower-Division Courses

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

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

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

Upper-Division Courses

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


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

421. Airport Planning and Management. (3). The principles and procedures pertaining to the planning of airport facilities, plus an understanding of the techniques of airport management, including airport design, financing of construction, services provided, income rate setting, accounting procedures, personnel and public relations, marketing and maintenance. Also includes current problems in certification security, safety, land acquisition, zoning and state and federal participation in airport development. Prerequisites: DS 350, Fin. 340, Mkt. 300 and Mgmt. 360. B 17 421 0 0506

422. Airline and Air Travel Management. (3). The organizational and financial structure of airline companies, their operating policies, marketing policies, equipment selection, personnel and public relations and a review of the pertinent federal and international regulations. Covers both air cargo and passenger operations. It also contains a section on the organization and operation of air travel agencies and their relations with airlines. Prerequisites: DS 350, Fin. 340, Mkt. 300 and Mgmt. 360. B 17 422 0 0506

491. Independent Study. (1-5). Offered for Cr/Nr only. Closed to graduate credit. Prerequisites: junior standing and 2.750 grade point average in aviation management and departmental consent. B 17 491 3 0501

492. Internship in Aviation Management. (1-3). Offered for Cr/Nr only. Prerequisites: junior standing and 2.750 grade point average in aviation management and departmental consent. B 17 492 3 0501

Courses for Graduate/Undergraduate Credit

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: junior standing. B 17 690 0 0501

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

Business Education

Department of Business Education

Lower-Division Courses

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

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

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

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

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

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

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

234. Advanced Shorthand. (3). A review of Gregg Series 90 Theory. Emphasis is placed on advanced dictation and dictation transcription. Prerequisite: Bus. E. 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. E 138 or two units secretarial training in high school or departmental consent. B 14 237 5 0514

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

260. Automated Word Processing. (3). This course provides a basic background of the concepts, procedures and careers in the automated office. Each student will receive individualized instruction on the Magna III with a CRT covering basic functions of input, revision, playback procedures, thought reorganization, pagination, decimal tab, boiler plate documents and merging. 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. Prerequisite: Bus. E 138 or departmental consent. B 14 260 1 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. E 237 or departmental consent. B 14 300 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; junior standing. B 14 750 9 0514

Business Law

Department of Finance, Real Estate and Decision Sciences

Lower-Division Courses

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

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

Upper-Division Courses


431. Legal Environment of Business. (3). An introduction to the legal environment in which businesses operate. The course considers the institutions and processes related to business law, and the major frameworks of private and public law, including contracts and commercial transactions, business organizations, business torts and crimes, and regulatory law. Ethical and social responsibility considerations are addressed as an integral aspect of legal regulation. Prerequisite: junior standing. B 15 431 0 0501

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

436. Law of Business Associations. (3). Law of agencies, partnerships and corporations. This course considers the organizational and relational aspects of both small, closely held businesses and large corporate enterprises. Prerequisite: junior standing. B 15 436 0 0506

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

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

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

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

Courses for Graduate/Undergraduate Credit

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. B 15 690 3 0506

750. Workshop in Business Law. (1-4). Prerequisite: junior standing. B 15 750 2 0506

Courses for Graduate Students Only

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

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 15 990 9 0501

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

Decision Sciences

Department of Finance, Real Estate and Decision Sciences

Lower-Division Course

190, Selected Topics. (1-3). Repeatable with departmental consent. B 15 190 0 0506

Upper-Division Courses

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


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

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

GrlNGr

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

651. Design of Operations Systems. (3). A course structured to give an in-depth view of the long-term design aspects of operations systems. Topics include process analysis and design, production control information systems, facilities planning, materials handling systems, design, personnel planning and scheduling of current issues. Prerequisite: DS 350. B 15 651 0 0506

652. Operations Planning Systems. (3). A course structured to give an in-depth analysis of the short-term or operational aspects of goods or service-producing systems. Topics
Economics

Department of Economics

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

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

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

General studies—Econ. 101G
Economic principles and theory—Econ. 102Q, 201Q, 202Q, 203H, 204H, 301, 302, 304, 605, 805, 806, 802, 803, 804
Industrial organization and regulated industries—Econ. 614, 615, 616, 617, 618
History and comparative systems—Econ. 622, 627
Statistics and econometrics—Econ. 311, 602, 631, 632, 831
Money theory, money and banking—Econ. 340, 640, 840
Public finance—Econ. 653, 760, 853
Labor, manpower and health economics—Econ. 303, 660, 691, 662, 663, 665, 861
Economic growth and development; international economics—Econ. 671, 672, 674, 670
Urban, environmental and regional economics—Econ. 687, 688, 885
Directed study; thesis—Econ. 491, 692, 750, 891, 892, 895, 896

Lower-Division Courses

101G. The American Economy. (3). An examination of the basic economic forces that affect the American economy today, the historical evolution of these forces and public policy issues resulting from these forces. Not open to upper-division students in the Barton School of Business. B 13 102Q 0 2204

102Q. Consumer Economics. (3). An examination of the consumer's role in the economy. The study of market organization and its impact on consumers, a discussion of information sources for consumers and an analysis of the programs for consumer protection

Courses for Graduate Students Only

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

851. Intermediate Production Management. (3). The theory of 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 production systems. Prerequisite: DS 350 or 850. B 15 851 0 0506

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

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

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

875. Management Science. (3). A course providing quantitative bases from which students may design and program computer use as a decision maker. Areas of study include mathematical programming, game theory, forecasting, queuing theory and simulation. Prerequisites: calculus. B 15 875 0 0507

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

890. Seminar in Special Topics. (1-5). Repeatable with departmental consent. B 15 890 9 0506

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

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

895-896. Thesis. (2-2). B 15 895 4 0506; B 15 896 4 0506

Upper-Division Courses

301. Intermediate Macroeconomics. (3). The concepts of aggregate demand and aggregate supply are introduced. After developing theoretical foundations for these, policy applications are discussed, including policy issues such as unemployment, inflation, government and international trade deficits and interest rates. Prerequisites: Econ. 2020 and junior standing. B 13 391 0 2204

302. Intermediate Microeconomics. (3). The concepts of resource allocation and prices for goods and services, inflation, business fluctuations, and unemployment. Prerequisite: Econ. 301. B 13 302Q 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 con-
sumer knowledge and management skills of the elderly. Prerequisite: Econ. 202Q 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. 202Q, one course in calculus and junior standing. B 13 304 0 0517

340. Money and Banking. (3). A study of money, credit, inflation and 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. 201Q and junior standing. B 13 340 0 0504

491. Directed Study. (1-3). Individual study of various aspects and problems of economics. Repeatable for credit. Cr/NC only. Prerequisites: junior standing, departmental consent and 2.750 grade point average in economics. B 13 491 3 2204

Courses for Graduate/Undergraduate Credit

602. Mathematical Methods in Economics. (3). An introduction to mathematical tools that are especially useful in economics, econometrics and finance. Topics include a review of differential and integral calculus, an introduction to matrix algebra and various constrained optimization and economic modeling techniques. Emphasis is on economic applications and modeling. Prerequisites: Econ. 200Q and Math 144 or equivalent and junior standing. B 13 602 0 2204

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. 202Q and junior standing. B 13 605 0 2204

614. Industrial Organization. (3). A study of both competitive and noncompetitive market structure, conduct and performance, with special emphasis on related public policy, such as advertising, price discrimination, and the like. Prerequisites: Econ. 202Q and junior standing. B 13 614 0 2204

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

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

617. Economics of Regulation. (3). A study of the theory and practice of regulation. Included are both the traditional regulation of public utilities and communications and the newer forms of regulation, such as safety and environmental regulations. Prerequisites: Econ. 202Q and junior standing. B 13 617 0 0510


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. 201Q 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 its application to business and economic data. Prerequisites: Econ. 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. 202Q, 340 and junior standing. B 13 640 0 0517

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. 202Q and junior standing. B 13 653 0 2204

660. Labor Economics. (3). An introduction to labor economics, surveying both theoretical and empirical research in this field. Topics include labor markets, wage determination, human capital theory and others. Prerequisites: Econ. 202Q and junior standing. B 13 660 0 0516

661. Collective Bargaining and Wage Determination. (3). An examination of economic supply and demand factors in 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. 202Q and junior standing. B 13 661 0 0516

662. Work and Pay. (3). The orientation of this course will investigate the economic aspects of work and the workplace. Its scope will deal with the demographics of the labor force, methods of rewarding those who participate in the labor force and such topics as the quality of work life, worker alienation and the nature of work under capitalism. Prerequisites: Econ. 202Q and junior standing. B 13 662 0 0516

663. Economic Insecurity. (3). Cross-listed as Ger. 663. Personal economic insecurity, such as unemployment, old age, health care, disability and erratic economic fluctuations. Costs and benefits of government action to aid in meeting such insecurity are included. Prerequisites: Econ. 202Q or instructor's consent. 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 services, the quantity, quality and pricing of health services, the need for insurance; and the role of government in the health sector. Prerequisites: Econ. 202Q 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 real topics are analyzed within this framework. Prerequisite: Econ. 202Q and junior standing. B 13 671 0 2204

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

674. International Finance. (3). Cross-listed as Fin. 640. 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: Fin. 340, Econ. 202Q 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 impact of various public policies on the use of energy and natural resources. Prerequisite: Econ. 202Q or instructor's consent. B 13 680 0 2204

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 neoclassical economic analysis to the study of urban areas as economic regions is stressed. Prerequisites: Econ. 201Q and 202Q, or Econ. 800, and junior standing. B 13 688 0 2214

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

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

760. Local Government Finance. (3). Cross-listed as Pol. S. 760. An analysis of state and local government expenditure and revenue systems, with an introduction to state and local financial administration. Prerequisites: Econ. 202Q and a course in statistics or instructor's consent. B 13 760 0 2214

Courses for Graduate Students Only

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

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

802. Microeconomic Analysis. (3). An intensive analysis of contemporary literature and problems in the areas of production, pricing and distribution. Prerequisites: Econ. 302 or 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. 800 or equivalent. Consent of instructor is required 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. 204 and one course in calculus. B 13 804 0 0517


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

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. Prerequisite: Econ. 202Q and 340. B 13 840 9 0504

841. Money and Capital Markets. (3). Theoretical and empirical studies of rate of return on financial assets available in credit, currency, futures and options, equity capital, and international capital markets. An examination of concepts and techniques for measuring and managing financial rate risks. Prerequisite: Econ. 340 or equivalent. B 13 841 0 0504

847. Speculative Markets. (3). Cross-listed as Fin. 847. Analysis of the markets for speculative securities such as futures, options and commodities. Underlying theories explaining speculative markets in which such securities are traded are evaluated. Trading strategies such as hedging and arbitrage are discussed. Prerequisite: Fin. 840 or equivalent. B 15 847 3 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 pepernnial 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 is determined by the content and sequence of the material covered in the course. Repeatable for credit with departmental consent. Prerequisite: instructor’s consent. B 13 861 9 0516

870. Seminar in International Trade and Finance. (3). Cross-listed as Fin. 820. A seminar in theoretical concepts and contemporary issues of international economics and finance. Selected issues include such topics as exchange rates, money, and prices in the world economy. Prerequisite: 202Q and one course in calculus. B 13 870 9 0513

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

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

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


896. Thesis. (1-2). B 13 896 4 2204

Finance

Department of Finance, Real Estate and Decision Sciences

Lower-Division Courses

1400. 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 15 1400 3 0504

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

Upper-Division Courses

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

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


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: Fin. 340. B 15 444 0 0504

491. Independent Study. (1-5). Offered for credit. Prerequisite: junior standing. B 15 491 3 0504

492. Internship in Finance. (1-3). Offered for credit. Prerequisites: junior standing and 2,750 grade point average in finance. B 15 492 2 0504

Courses for Graduate/Undergraduate Credit

640. Financial Management. (3). An exploration of the problems and operations for which the financial officer is responsible, emphasizing controversial aspects of financial management. The internal organization of commercial banks, current problems and recent innovations in commercial banking are also discussed. Prerequisites: Fin. 340, Econ. 202Q and junior standing. B 15 640 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: Fin. 340 and junior standing. B 15 641 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: Fin. 340 and junior standing. B 15 643 0 0504

644. Commercial Bank Management. (3). A study of the problem of bank risk management. The internal organization of commercial banks, current problems and recent innovations in commercial banking are also explored. Prerequisites: Fin. 643 and junior standing. B 15 644 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 institutional and individual investors and portfolio theory are explored. Prerequisites: Fin. 641 and junior standing. B 15 645 0 0505

646. 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 taxation are explored through a series of case studies. Prerequisites: Fin. 340, Econ. 202Q and junior standing. B 15 646 0 0513

690. Seminar in Selected Topics. (1-5). Repeatable with departmental consent. Prerequisite: junior standing. B 15 690 9 0504

750. Workshop in Finance. (1-4). Prerequisite: junior standing. B 15 750 2 0504
Courses for Graduate Students Only

820. Seminar in International Trade and Finance. (3). Cross-listed as Econ. 870. A seminar in theoretical concepts and contemporary developments in the theory 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, transfers of inflation between countries, etc. Prerequisite: Fin. 840 or equivalent.

840. Financial Systems. (3). An intensive analytical introduction to finance from the management viewpoint, including the theory of financial management, the financial institutional structure and an analysis of a variety of practical problems of business finance. Prerequisite: Acct. 800 or equivalent. B 15 840 0 0504

841. Financial Administration. (3). An integrated treatment of basic business finance, financial management, financial statement analysis and financial institutions. Prerequisite: Fin. 840 or equivalent. B 15 841 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: Fin. 840 or equivalent. B 15 842 0 0504

843. Investment Analysis and Portfolio Management. (3). Study of the basic theory and practice of security valuation and investment management. Includes security and portfolio analysis, selection of investment media and measurement of performance. Not available to students with credit in Fin. 641 or equivalent. Prerequisites: Fin. 340 or 840 and Econ. 831. B 15 843 0 0504


845. Security Analysis. (3). An analysis and valuation of investment securities issued by corporations and governmental agencies. Prerequisites: Fin. 641 and 843 or departmental consent. B 15 845 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. Concepts of rate of return, net present value, payback process, capital budgeting, project screening, and discounted cash flow are discussed. Prerequisite: Fin. 840 or equivalent. B 15 846 0 0504

847. Speculative Markets. (3). Cross-listed as Econ. 847. Analysis of the markets for speculative securities such as futures, options and commodities. Underlying theories explaining speculative markets in which such securities are traded are evaluated. Tracing strategies such as hedging and arbitrage are discussed. Prerequisite: Fin. 840 or equivalent. B 15 847 0 0504

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 15 890 0 0504

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 15 891 0 0504

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

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

Legal Assistant

Department of Finance, Real Estate and Decision Sciences

Lower-Division Courses

230. Introduction to Paralegalism. (1). The new role concept of the legal assistant in the practice of law. An inquiry into what paralegals do, types of paralegal employment, education and licensure, professional ethics, authorized and unauthorized practice of law and an introduction to paralegal skills. Prerequisite: Fin. 840 or equivalent. B 15 840 0 0504

231A. Legal Research and Writing I. (3). An introduction to the tools and techniques of research and writing, with an emphasis on research using computerized legal research. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 231A 0 0504

231B. Legal Research and Writing II. (3). A continuation of Legal 231A. Includes research and writing concerning issues related to a specific area of law. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 231B 0 0504

232. Legal Aspects of Business Organizations. (3). The law of business organizations with emphasis on the practical aspects related to formation of operation of proprietorships, partnerships and corporations. Includes drafting aspects related to employment agreements, partnership agreements and corporate documents. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 232 0 0504

233. Litigation I. (3). An introduction to the civil litigation process with emphasis on the practice aspects associated with a civil action. Topics covered include civil procedure, preparation and use of pleadings, discovery, law of evidence and appeals. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 233 0 0504

234. Estate Administration. (3). The law of intestate succession, wills and trusts, with emphasis on the administration of an estate under Kansas law. Includes the preparation of wills, trust instruments and documents related to the estate process. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 234 0 0504

235. Law Office Management and Technology. (3). The application of modern con­cepts of organization, management and systems technology to the law office. Emphasis is placed on the use of systems approaches and the proper use of nonlawyers in the handling of all administrative functions and routine legal matters. Prerequisite, admission to the Legal Assistant Program or departmental consent. B 15 235 0 0504

236. Litigation II. (3). A continuation of Litigation I with emphasis on the functions of a legal assistant in trial preparation and execution including: gathering and organization of materials, investigating, interviewing, drafting of pleadings and interrogatories, preparing a trial notebook, assisting during trial, etc. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 236 0 0504

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, visitation and guardianship. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 237 0 0504

238. Legal Assistant Internship. (3). Internship training in a law office, corporate law department or government agency. Offered C/NC only. Prerequisite: 12 hours of legal specialty courses and internship committee approval. B 15 238 0 0504

240. Substantive Law: Torts. (3). An introduction to the substantive law which is involved in personal injury litigation. Special emphasis is placed on analysis of cases and applying legal principles to facts. Prerequisite, admission to the Legal Assistant Program or departmental consent. B 15 240 0 0504

241. Legal Research and Writing II. (3). A continuation of Legal 231A. Covers research in specialized legal materials and writing of trial and appellate briefs. Prerequisite: admission to the Legal Assistant Program or departmental consent and Legal 231A. B 15 241 0 0504

243. Property Law. (3). An introduction to the principles of property law with emphasis on the practice aspects of real estate transactions. Prerequisite: admission to the Legal Assistant Program or departmental consent. B 15 243 0 0504

244. Legal Assistant Computer Skills. (3). An introduction to the utilization of microcomputers by legal assistants. Emphasis is placed on word processing, litigation support and computer-aided research with Lewis or Westlaw. Prerequisite: Legal 231A or 232 or departmental consent. B 15 244 0 0504

Management

Department of Management

Lower-Division Courses

101G. Introduction to Business. (3). Everyone spends a lifetime dealing with and being influenced by business firms. The main goal of this course is to introduce stu­dents to current issues, concepts and functions of business and its environment. Students may not receive credit in both Mgmt. 101G and Mgmt. 101G. B 16 101G 0 0501
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. International dimension of management is also discussed. Prerequisite: junior standing. B 16 360 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. International dimension of management is also discussed. Prerequisite: junior standing. B 16 360 0 0506

Upper-Division Courses

365. Organizational Development. (3). Planned organizational change. Emphasis is upon the process of change, the study of organizations. Individual, group and structural developments are included. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 665 0 0506

366. Organizational Structure and Design. (3). The construction and modification 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. Prerequisites: junior standing and Mgmt. 360. B 16 667 0 0506

368. Decision Making. (3). Cross-listed as P. Adm. 730. A study of the theories of decision making with attention 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: junior standing. Completion of Mkt. 300, Fin. 340, DS 350 and Mgmt. 360 is strongly recommended. B 16 430 0 0501

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

464. Organizational Communication. (3). An examination of the design of organizational communication systems. An introduction to communication models and the analysis of the interpersonal communication process are included. Prerequisites: Mgmt. 360 or concurrent enrollment and junior standing. B 16 464 0 0501

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

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

Courses for Graduate/Undergraduate Credit

561. Introduction to International Economics and Business. (3). Cross-listed as Econ. 672. A survey of the economic foundations of international trade and investment. After a study of international trade, theory and policy (the international economy), it explores the operations of the multinational firm within that environment. Prerequisites: Econ. 202Q and junior standing. B 16 561 0 0513

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

Courses for Graduate Students Only

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

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

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

862. Organizational Behavior. (3). A study in individual behavior in an organizational setting. Human variables in business are analyzed from the standpoint of job placement, performance and individual development. Topics covered include behavioral development, motivation and learning in human relations. Prerequisites: departmental consent. B 16 862 0 0506

865. Communication. (3). Cross-listed as Comm. 865. An analysis of communication problems in organizations. Discussion of communication systems and techniques within organizations. One or two areas such as motivation, cognitive processes, attitudes and behaviors. Prerequisite: Mgmt. 860 or departmental consent. B 16 865 0 0506

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

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

885. Business Policies. (3). An analysis of business problems from the perspective of top management. Policy-oriented cases, both domestic and international, are discussed. Prerequisite: to be taken during last semester of student's program, or departmental consent. B 16 885 0 0506

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 16 890 9 0506

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 16 891 3 0506

893. Special Project in Management. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 16 893 3 0506

895-896. Thesis. (2-2). B 16 895 4 0501; B 16 896 4 0501
Marketing
Department of Marketing and Small Business

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

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


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

404. Retail Management. (3). An examination of the essential principles and practices of retail business management, including site selection, store design 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: Mkt. 300 or departmental consent. B 17 404 0 0509

405. Consumer Behavior. (3). A study of a variety of concepts in the behavioral sciences related to specific topics in consumer behavior, including mass communications, reference groups and sociological, psychological and economic aspects of consumer behavior. Prerequisites: Mkt. 300 and junior standing. B 17 405 0 0509

407. Marketing for Service and Nonprofit Organizations. (3). A study of the unique marketing challenges faced by not-for-profit organizations. Marketing concepts and appropriate marketing programs are evaluated from the perspective of these organizations. Prerequisites: Mkt. 300 and junior status. B 17 407 3 0509

491. Independent Study. (1-5). Offered for Cr/NrC only. Closed to graduate credit. Prerequisites: junior standing and 2.750 grade point average in marketing. B 17 491 3 0509

492. Internship in Marketing. (1-3). Offered for Cr/NrC only. Prerequisites: junior standing, 2.750 grade point average in marketing and departmental consent. B 17 492 2 0509

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

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

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

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

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

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

750. Workshop in Marketing. (1-4). Prerequisite: junior standing. B 17 750 2 0509

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

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

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

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

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: six hours of marketing, including Mkt. 801. B 17 809 0 0509

890. Seminar in Special Topics. (1-3). Repeatable with departmental consent. B 17 890 9 0509

891. Directed Studies. (1-5). Prerequisite: departmental consent. B 17 891 3 0509

893. Special Project in Marketing. (1-4). A special project including original case research, supervised internships or field research. Prerequisite: approval of the MS Committee. Open only to MS in administration degree candidates. B 17 893 3 0509

985-986. Thesis. (2-2). B 17 985 4 0501, B 17 986 4 0509

Personnel
Department of Management

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

Upper-Division Courses

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

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

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

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

Courses for Graduate/Undergraduate Credit
664. Labor Relations. (3). A course designed to present the philosophy underlying labor legislation and the function of collective bargaining in labor-management relationships. Prerequisite: junior standing. B 16 664 0 0515

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

867. Seminar in Personnel Administration. (3). An in-depth study and analysis of several critical and/or major current problems in personnel and a review of significant literature. The direction of the course could be determined by the interests of the class. Prerequisite: Pers. 466 or instructor’s consent. B 16 868 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: Pers. 466 or instructor’s consent. B 16 867 9 0515

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

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

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

Real Estate

Department of Finance, Real Estate and Decision Sciences

Lower-Division Course

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

Upper-Division Courses

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

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

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

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

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

Courses for Graduate/Undergraduate Credit

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

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

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

619. Urban Land Development. (3). A hands-on course designed to familiarize students with all aspects of land development, including supply and demand analysis, site selection, feasibility analysis, development financing, cash-flow budgeting and marketing strategies. Prerequisite: RE 310 or 611 or 618. B 15 619 0 0511

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

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

Courses for Graduate Students Only

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

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

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

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

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

Small Business/Entrepreneurship

Department of Marketing and Small Business

Lower-Division Course

160Q. Introduction of Entrepreneurship. (3). An introductory course that is designed not only to familiarize the student with the world of small business but also to analyze the personal strengths and weaknesses as they relate to launching an entrepreneurial career. Considerable attention will be given to the elementary concepts of planning, financing, starting and managing a new business. B 17 160Q 0 0506

Upper-Division Courses

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

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

491. Independent Study. (1-5). Offered for Cr/NCr only. Closed to graduate credit. Prerequisites: junior standing and a 2.750 grade point average in entrepreneurship courses. B 17 491 3 0506

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

Courses for Graduate/Undergraduate Credit

560. Consulting with Small Business. (3). This course will give hands-on experience consulting with an existing small business. Students will work with the owner in teams under the guidance of the instructor to identify the problem and propose solutions to that problem. Prerequisites: junior standing and 2.750 grade point average in entrepreneurship courses. B 17 465 0 0506

668. Advanced Entrepreneurship. (3). This course will explore advanced subjects such as leveraged buyouts, R&D limited partnerships, private placements of stock, role of the entrepreneur in economic development, marketing strategy for smaller businesses and strategic planning during early growth stages. The student will prepare a business plan and be required to present the plan for evaluation by a panel of academics from various business disciplines. Prerequisite: S. Bus. 361 or consent of instructor. B 17 668 0 0506

690. Special Topics in Entrepreneurship. (3). This advanced course will have in-depth discussion of emerging topics within the field of entrepreneurship. Topics to be discussed will be on a rotating basis, allowing the stu-
College of Education

Maurine A. Fry, PhD, Dean

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

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

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

Degrees Offered

Undergraduate

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

Programs in industrial technology and physical education and recreation provide nonteaching routes to the baccalaureate degree.

Graduate

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

Graduate courses are offered to meet changing needs and to develop educational leadership. The Master of Arts (MA) and Doctor of Philosophy (PhD) degrees are offered by the Department of Communicative Disorders and Sciences. Graduate student also may take courses leading to the doctoral degree in educational administration through a doctoral transfer program with The University of Kansas. Programs in student counseling and personnel services and educational administration lead to the Specialist in Education (EdS) degree. Master of Education (MED) programs are available in art education, educational administration, educational psychology, elementary education, music education, physical education, school psychology, secondary education, and student counseling and personnel services. A Master of Science Education (MSE) also is available.

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

Policies

Admission to the College of Education

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

1. complete 24 credit hours with an overall grade point average of at least 2.250.
2. the 24 hours must include English 101 and 102, Communication 111 or 112 and College Algebra or their equivalents.

Admission to Programs in Teacher Education

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

1. pass IS 231 which involves (a) competency tests in reading, writing and mathematics (b) audio-visual literacy (c) computer literacy
2. complete 50 semester hours of University credit
3. attain a minimum grade point average of 2.500 overall and 2.500 in the major field
4. earn a grade of C or better in English 101 and 102
5. earn a grade of C or better in Communication 111 or 112

Any student denied admission to a program in Teacher Education may appeal by filing a written petition with the Admissions, Retentions and Exceptions Committee of the College of Education.

Enrollment Limits

Students enrolled in the College of Education may not enroll in more than 21 credit hours of coursework per semester. Students over 21 credit hours are subject to the college's attendance policy.
semester hours of work per semester during the academic year. Summer Session enrollments are limited to a maximum of six hours for each four-week session or 12 hours during the Summer Session. Students who have completed at least 24 hours at WSU with a WSU grade point average of 3.00 or better may petition their department chairperson for permission to enroll in excess hours.

Probation and Dismissal
Students in the College of Education are placed on probation at the conclusion of any semester in which their overall WSU grade point average falls below 2.250. These students will be continued on probation if their grade point average for the semester on probation is at least 2.250. Students who fail to earn at least a 2.250 for any semester on probation may be dismissed for poor scholarship. Students on probation are limited to a maximum enrollment of 12 hours per semester.

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

Students dismissed for poor scholarship may reenroll only with the special permission of the Admissions, Retentions and Exceptions Committee.

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

Academic counseling and advanced planning require careful attention and time. Thus, students should secure their recent academic records, complete their petition and have their readmissions counseling session at least five days before the first day of enrollment of the semester for which they wish to be readmitted.

Students develop their own cases for readmission. They should center their petitions around reasons for their failure and presentation of evidence for probable future success.

Cooperative Education
The College of Education is one of the participating colleges in the University Cooperative Education program. This program is designed to provide off-campus, paid, work experiences that integrate, complement and enhance the student’s regular academic program. Students are placed in a variety of educational experiences which range from early childhood through University settings. Participation in the program requires enrollment for credit in specific Cooperative Education courses designated by the appropriate academic department in the college. To enroll in the program or for more information, students should contact the Cooperative Education coordinator.

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

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

Students enrolled in the College of Education are expected to attain at least a 2.500 grade point average except for students in the nonteaching program in industrial technology who are required to maintain a 2.250 GPA. Admission to the student teaching semester requires an overall grade point average of at least 2.500 and at least a 2.500 average in the major field: a grade of C or better in English 101 and 102, or a statement of proficiency from the Department of English; a grade of C or better in Communication 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 better in student teaching is necessary to receive a recommendation for a teaching certificate.

Requirements for admission to student teaching for communicative disorders and sciences students are listed in the department's program description later in this section. Certain programs may require a higher grade point average for admission to student teaching.

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

Students interested in the following fields should contact an adviser in the College of Education: special education, bilingual education, in conjunction with either the elementary or secondary program; early childhood certification; and library certification, in conjunction with the elementary or secondary education programs.

Effective May 1, 1986, all graduates applying for teacher certification in Kansas are required to complete the National Teachers Examination established by the Kansas State Department of Education in order to qualify for their initial certificate.

General Education
A total of 42 hours of general education courses is required for all students in the college, including the following requirements for graduation:

I. Basic Skills (12 hours)
   A. Written communication (six hours)
   B. Oral communication (three hours)
   C. Mathematics (three hours)

II. Distribution Requirements ("G" or "Q" courses only)
   A. At least nine hours of humanities and fine arts in three different departments—literature, foreign languages, history, linguistics, musicology-composition, music education, philosophy, religion
   B. At least six hours of social and behavioral sciences—Psychology 111 (required), anthropology, economics, geography, political science, sociology
   C. At least six hours of natural sciences and mathematics—biology, chemistry, geology, mathematics, physics
   D. At least nine hours of electives from general education coursework

Note: (a) No courses from the student's major department may be counted in the general education area; and (b) courses must be taken in at least two departments in each division outside the division containing the student's major. All course work in divisions A-D must be "G" or "Q" courses.

*Must have a grade of C or better in Engl. 101 and 102 and in Communic. 111 or 112.
Professional Education

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

Communicative Disorders and Sciences

I. General Education
Students majoring in Communicative Disorders and Sciences are expected to meet all general education requirements. In Division B, courses must be taken in two different departments. At least six hours of psychology are required. Within Division B, or in the Professional Education section, either Psy. 414, Child Psychology, or ISEP 233, Educational Psychology: Child Development, must be taken.

II. Professional Education
Selected courses from major, plus 18 hours including the following courses:

- IS 231, Teacher Education Lab, 0 hours
- IS 232, Introduction to Professional Education, 2 hours
- ISEP 233, Educational Psychology: Child Development, 3 hours
- CDS 327, Clinical Methods in the Public Schools, 3 hours
- CDS 447, Speech and Language Practicum in the Public Schools, 5 hours, or
- CDS 457, Audiology Practicum in the Public Schools, 5 hours
- CDS 448, Public School Speech and Language Programs, 2 hours, or
- CDS 458, Public School Audiology Programs, 2 hours

Electives in special education (three to nine hours) to be selected in consultation with an adviser.

* In the Professional Education section, or in Division B, either Psy. 414, Child Psychology, or ISEP 233, Educational Psychology: Child Development, must be taken.

Elementary Education

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

II. Professional Education (55 hours)
The following courses are required:

- IS 231, Teacher Education Lab, 0 hours
- IS 232, Introduction to Professional Education, 2 hours
- ISFD 234, Philosophy and History of Education, 2 hours
- ISFD 428, Social and Cultural Foundations of Education, 2 hours
- ISEP 233, Educational Psychology: Child Development, 3 hours
- ISEP 433, Educational Psychology: Learning and Evaluation, 3 hours
- IS 456, Multicultural Education, 3 hours
- ISSP 601, Introduction to Exceptional Children, 3 hours
- ISEE 316, Children's Literature, 3 hours, or
- ISEE 616, Literature for Adolescents, 3 hours
- ISEE 319, Language Arts in the Elementary School, 3 hours
- ISEE 321, Science in Elementary Education, 3 hours
- ISEE 406, Social Studies in the Elementary School, 3 hours
- ISEE 420, Reading in the Elementary School, 3 hours
- ISEE 421, Elementary Reading Practicum, 3 hours
- ISEE 444, Mathematics in the Elementary School, 3 hours
- IS 453, Classroom Dynamics, 2 hours
- ISEE 446, Elementary Education-Student Teaching Seminar, 1 to 3 hours
- ISEE 447, Student Teaching in the Elementary School, 13 hours, and/or
- ISEE 448, Student Teaching in the Elementary/Early Childhood School 13 hours.

* Student teaching semester

III. Allied Fields (21 hours)
The following courses are required:

- Art Education 311 or 220 3
- Music Education 351, 352, 606, 611 3
- Physical Education 225, 325, 326, 327 3
- Health Education (3 hours) 3
- PE 500 or 115 1

Plus nine hours of allied fields electives.

Secondary Education

I. General Education
Students majoring in secondary education should meet the requirements in the General Education Program as listed above.

II. Secondary Teaching Major
Students must fulfill the teaching specialty emphasis of a program as specified in the teaching field section that follows. Only those specialties listed among the combined curricula and departmental majors and minors in the majors and minors section may be counted.

1. Major field—a field normally taught in secondary schools should be studied.
2. Minor field—at least one minor field must be taken. Completion of a minor does not qualify the student to teach that field. Special arrangements have to be made for the student to qualify to teach in minor fields. In no case may the minor consist of fewer than 15 semester hours. No minor is required if an area major of 50 hours is elected.

III. Professional education

a. IS 232, Introduction to Professional Education (2 hours)
b. IS 231, Teacher Education Lab (0 hours)
c. ISEP 333, Educational Psychology: Adolescent Development (3 hours)
d. ISFD 234, Philosophy and History of Education (2 hours)
e. ISFD 428, Social and Cultural Foundations of Education (2 hours)

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

- ISEP 433, Educational Psychology: Learning and Evaluation (fall only) 3
- ISEE 454, General Methods of Secondary Teaching (fall only) 3
- ISEE 455, Advanced Methods of Secondary Teaching (spring only) 3
- Student Teaching—Secondary School (spring only) 3
- IS 456, Multicultural Education 3
- IS 453, Classroom Dynamics (optional) 2
- ISSP 601, Introduction to Exceptional Children (optional) 3
- ISSE 401, Secondary Reading Foundations 3
- For majors in industrial technology, music, physical education, foreign languages and business education:
- ISEP 433, Educational Psychology: Learning and Evaluation 3
- IS 456, Multicultural Education 3
- IS 453, Classroom Dynamics (optional) 2
- ISSP 601, Introduction to Exceptional Children (music majors take Mus. E. 611) 3

1. Major field—a field normally taught in secondary schools should be studied.
2. Minor field—at least one minor field must be taken. Completion of a minor does not qualify the student to teach that field. Special arrangements have to be made for the student to qualify to teach in minor fields. In no case may the minor consist of fewer than 15 semester hours. No minor is required if an area major of 50 hours is elected.

III. Professional education

a. IS 232, Introduction to Professional Education (2 hours)
b. IS 231, Teacher Education Lab (0 hours)
c. ISEP 333, Educational Psychology: Adolescent Development (3 hours)
d. ISFD 234, Philosophy and History of Education (2 hours)
e. ISFD 428, Social and Cultural Foundations of Education (2 hours)

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

- ISEP 433, Educational Psychology: Learning and Evaluation (fall only) 3
- ISEE 454, General Methods of Secondary Teaching (fall only) 3
- ISEE 455, Advanced Methods of Secondary Teaching (spring only) 3
- Student Teaching—Secondary School (spring only) 3
- IS 456, Multicultural Education 3
- IS 453, Classroom Dynamics (optional) 2
- ISSP 601, Introduction to Exceptional Children (optional) 3
- ISSE 401, Secondary Reading Foundations 3
- For majors in industrial technology, music, physical education, foreign languages and business education:
- ISEP 433, Educational Psychology: Learning and Evaluation 3
- IS 456, Multicultural Education 3
- IS 453, Classroom Dynamics (optional) 2
- ISSP 601, Introduction to Exceptional Children (music majors take Mus. E. 611) 3

* Student teaching semester

III. Allied Fields (21 hours)
The following courses are required:

- Art Education 311 or 220 3
- Music Education 351, 352, 606, 611 3
- Physical Education 225, 325, 326, 327 3
- Health Education (3 hours) 3
- PE 500 or 115 1

Plus nine hours of allied fields electives.

* Student teaching semester

III. Allied Fields (21 hours)
The following courses are required:

- Art Education 311 or 220 3
- Music Education 351, 352, 606, 611 3
- Physical Education 225, 325, 326, 327 3
- Health Education (3 hours) 3
- PE 500 or 115 1

Plus nine hours of allied fields electives.
Secondary Teaching Fields

The major is generally no fewer than 30 semester hours. (For specific exceptions see languages and the combined curricula programs.) Students may elect certain of the majors offered in Fairmount College of Liberal Arts and Sciences, the College of Fine Arts or the College of Education. Students meet specific course requirements of the department in which the major is offered. For example, students may elect to major in history because they wish to become high school history teachers. To do so, they complete the history major as prescribed by the history department in Fairmount College of Liberal Arts and Sciences. In addition, they complete the University's general education requirements, the professional education sequence and other requirements for the teacher's certificate prior to graduation. Students should work closely with a faculty adviser in the College of Education to be sure they meet certification requirements. A check sheet of requirements for each teaching field is available from the College of Education.

The selection of teaching fields for the junior or senior high school is made with an academic adviser representing the College of Education. The teaching field or major should be declared no later than the beginning of the junior year. Students who plan to teach in secondary schools may select their major and minor from the fields given below. The specific course requirements of the department from which the major or minor work is taken prevail. The minor will not qualify a student to teach unless special arrangements have been made in advance.

Majors and Minors

Art

English language and literature *

Foreign language

French

German

Latin

Spanish

Industrial technology *

Mathematics

Music *

Physical education

Science *

Biological

Chemistry

Natural sciences-biological

Natural sciences-physical

Physics

Social studies comprehensive *

Social studies core *

Economics

Geography

History

Political science

Sociology/Anthropology

Speech Communication

Rhetoric-communication

Theatre

Minors Only

American studies

Anthropology

Computer studies

Geology

Journalism

Philosophy

Religion and philosophy *

Religion is combined with philosophy on a minor. No more than eight hours of religion will count toward a degree.

Combined Curricula

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

Natural Sciences—Biological

This major requires a minimum of 50 hours. A teacher who qualifies under this provision may teach chemistry and general science as well as biology. Students also may make arrangements to qualify to teach other sciences. Requirements for a major listed below include Division C requirements of the general education program.

Major. Requirements for a natural sciences—biological major are: Biol. 203Q; 204; 330, 418, 520 or 524, 509G or 584; any class in Botany; any one of Biol. 560, 575, 578, 640F; Chem. 111Q-112Q, 523, 531; Phys. 111Q or 213Q; Geol. 302Q; Math 112; IS 720, 721.

Natural Sciences—Physical

This major requires a minimum of 50 hours. A teacher who qualifies under this provision may teach chemistry, general science and physical science. Students also may make arrangements to qualify to teach other sciences. Requirements for a major listed below include Division C requirements of the general education program.

Major. Requirements for a natural sciences—physical major are: Biol. 203Q; Chem. 111Q-112Q; Geol. 302Q; Phys. 213Q-214Q, 195G, 196; Math 112; IS 720, 721; plus two of the following options: Phys. 551; or Geol. 1110; 300G, 312; a) Chem. 523, 524, 531, 532; plus additional physical science hours to total 50.

Social Studies

Completion of the following program will lead to certification in comprehensive social studies at the secondary level. The following fields are included in this certification: American history, world history, government, economics, anthropology, geography and sociology.

Major. The major requires the following:

1. American history (17 hours)
   a. Hist. 131Q and 132Q . . 6-8
   b. 9 hours chosen from:
      Hist. 517 and 518, Constitutional History . . . . . . . . 6
      Hist. 521 and 522, Diplomatic History . . . . . . . . . . . 6
      Hist. 330Q, The Americans . 3
      Hist. 530, American Women in History . . . . . . . . . 3
      Hist. 333, The American City 3
   2. World History (9 hours)—Hist. 101G and 102G, History of Western Civilization; 3 hours of upper-division non-U.S. history.
   3. Political Science (12 hours)—Pol. S. 121Q, American Politics; 319, State Government; 3 hours from 229Q, 358Q and 444; plus 3 elective hours in political science.
   4. Anthropology (3 hours)—Anth. 102Q, Cultural Anthropology, or Anth. 124Q, General Anthropology.
   5. Economics (3 hours)—Econ. 101G, The American Economy, or Econ. 201Q, Principles of Economics.
   6. Geography (3 hours)—Geog. 125Q, Principles of Human Geography, or Geog. 210Q, World Geography, or Geog. 262Q, Cultural Geography.
   7. Sociology (3 hours)—Soc. 111Q, Introduction to Sociology.

Art Education

See Department of Art Education, College of Fine Arts.

Communicative Disorders and Sciences

The Department of Communicative Disorders and Sciences provides academic and clinical training for students at The Wichita State University who wish to work with communicatively handicapped children and adults. The undergraduate program offers broad, comprehensive and preprofessional preparation for specialized training, which is offered on the graduate level. Graduate work, culminating in a master's degree, is required to obtain professional certification as a speech and lan-
guage clinician or audiologist in the public schools, hospital clinics or rehabilitation centers or to engage in private practice. With an undergraduate, preprofessional major, students can normally complete the master's program in one calendar year and be eligible for certification by the American Speech-Language-Hearing Association and the state of Kansas public schools. The PhD in communicative disorders and sciences prepares individuals to function professionally as independent clinicians or as teacher-scholars in an academic setting.

**Undergraduate Major**

The preprofessional, undergraduate major places primary emphasis on the general areas of communicative sciences and disorders and beginning specialized emphasis on speech and language pathology or audiology. Supervised practicum courses are required as part of the training program. CDS 417 and 418 are required for undergraduate students majoring in speech and language pathology, and CDS 447 and 448 are required for students wishing to qualify as speech and language clinicians in the public schools. CDS 441 is required for undergraduate students majoring in audiology, and CDS 457 and 458 are required for students wishing to qualify as audiologists in the public schools. CDS 785 is also required for all students on either an undergraduate or graduate level.

Students should make formal application for practicum courses during enrollment in CDS 220 or no later than the second semester of the sophomore year. Transfer students should apply during the semester prior to, or immediately upon, taking upper-division courses in the department. Evaluation of the student's speech, language and hearing proficiency will be conducted at this time. Significant deviations in any area must be corrected to maximum ability before enrollment in practicum courses or student teaching. Thus, admission to a major in CDS does not constitute assurance of automatic entrance into the practicum or student teaching sequence.

Undergraduate students may major in communicative disorders and sciences in either the College of Education or Fairmount College of Liberal Arts and Sciences. Most students take the program in the College of Education, but those wishing to prepare themselves exclusively for employment in community speech and hearing clinics or hospitals may enroll in Fairmount College of Liberal Arts and Sciences. In either case, all students must satisfy the general education requirements of the University. Students in the College of Education must select certain courses from the General Education Program that will satisfy 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 34 hours and includes the following courses:

- **Required:** CDS 111Q, 132, 214, 218, 220, 231, 315, 316, 322, 417, 418 and 520. To qualify as speech and language clinicians in the public schools, students must also complete CDS 327, 447 and 448.

- **Optional:** CDS 540, 610, 700, 720, 726, 747, 760 and 785.

**Audiology**

The major with emphasis in audiology consists of a minimum of 35 hours and includes the following courses:

- **Required:** CDS 111Q, 132, 214, 218, 220, 231, 315, 316, 322, 417, 441 and 540. To qualify as an audiologist in the public schools, students must also complete CDS 327, 457 and 458.

- **Optional:** CDS 610, 700, 735, 747, 760 and 785.

**Deaf Education**

Undergraduate preparation with beginning emphasis in deaf education consists of a minimum of 36 hours and includes the following courses:

- **Required:** CDS 111Q, 132, 214, 218, 220, 231, 315, 316, 360, 540, 747, 760 and 785. In addition, selected methods courses in elementary education will be chosen in consultation with an adviser.

**Teacher Education**

One full semester of student teaching is required for all students working toward certification as public school speech and language clinicians or audiologists. To complete this requirement, students must take CDS 417 and 418 or 441, in a clinical setting, then CDS 447 and 448, or CDS 457 and 458, in a public school setting, accumulating a total of ten hours of credit.

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

Students must apply for admission to both student teaching semesters (CDS 447, 448, or 417, 418). They must have an overall grade point average of 2.500; a 2.500 average in the major field: a grade of C or better in English 101 and 102 and in Communication 111 or 112, or their equivalents; and the recommendation of the major department. Medical clearance must also be obtained before the start of the student teaching assignment. Evaluation of the student's speech, language and hearing proficiency will be conducted at this time. Significant deviations in any area must be corrected to maximum ability before student teaching.

**Certification**

The communicative disorders and sciences undergraduate preprofessional major may be applied toward certification by the American Speech-Language-Hearing Association. This certification requires a master's degree, with major emphasis in speech and language pathology or in audiology.

**Undergraduate Minor**

A minor in communicative disorders and sciences consists of 18 hours and may be earned in either the College of Education or Fairmount College of Liberal Arts and Sciences. The following courses are recommended for a minor unless other arrangements are made: CDS 111Q, 132, 214, 218, 220 and 316. Arrangements for the minor should be made in consultation with the Department of Communicative Disorders and Sciences.

**Other Requirements**

Participation in many of the department's clinical practicum courses requires that a student obtain medical clearance prior to the start of the course. This requirement is indicated in the individual course descriptions. Procedures to be followed may be obtained from the department's office. Also, seniors and graduate students who participate in active clinical practice during the year must purchase professional liability insurance in the amount of not less than $200,000/$600,000. This must be done on a yearly basis, when appropriate.

CDS 705, Communicative Disorders, which is cross-listed as Comm. 665, is a general survey course and may not be used as part of either a major or minor in communicative disorders and sciences at the undergraduate or graduate level without departmental consent.

**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 Communicative Disorders and Sciences. A minimal fee may be 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.

### General

#### Lower-Division Course

**200. Foreign Accent and Dialect Reduction.** (3) 2R; 3L. Designed primarily for the nonnative speaker of English or for the speaker of a nonstandard dialect of English wanting to improve pronunciation. Problems of foreign accent and English dialect reduction are studied. Speech patterns are analyzed and an individual program in dialect reduction is designed. Intensive practice is provided. Not for the student who is beginning the study of English. D 12 200 1 1220

### Communication Sciences

#### Lower-Division Course

**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 CDS 1110. D 12 214 0 1220

**218. Phonetics: Theory and Application.** (3) 3R; 1L. Cross-listed as Ling. 218. The study of physiologic, acoustic and perceptual characteristics of speech sounds with a survey of current phonological theory and applications to speech improvement. Extensive practice is given in transcription of speech. Prerequisites: sophomore standing or concurrent enrollment in CDS 1110. D 12 218 0 1220

**220. Developmental Psycholinguistics.** (3). Cross-listed as Ling. 220. 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 or concurrent enrollment in CDS 218. D 12 220 0 1220

#### Upper-Division Course

**316. Introduction to Speech and Hearing Sciences.** (3). Examination of elements in the chain of events that lead to human communication. Speech production and perception are studied at physiological and acoustical levels, with primary emphasis on acoustics. Prerequisites: junior standing and prior or concurrent enrollment in CDS 1110. D 12 316 0 1220

### Courses for Graduate/Undergraduate Credit

**610. The Neurology of Speech and Language.** (4). A consideration of basic neuro-anatomy and neurophysiology necessary for obtaining an understanding of the representation of speech and language in the human central nervous system and of conditions resulting from neurological impairment. Prerequisite: at least senior standing. D 12 610 0 1220

**735. Anatomy, Physiology and Pathology of the Auditory System.** (3). Detailed anatomy and function of the auditory system. Normal and pathological conditions are studied, with emphasis on clinical manifestations. Prerequisite: CDS 231. D 12 735 0 1220

### Courses for Graduate Students Only

**828. Advanced Speech and Hearing Science.** (3). 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: CDS 316 or equivalent or departmental consent. D 12 828 1 1220

**830. Laboratory Instrumentation.** (3). 3R; 3L. An introduction to clinical and research instrumentation used in the fields of communicative disorders and sciences. Experience with instrumentation is gained through practical projects and applications within the laboratory. Prerequisite: CDS 828. D 12 830 1 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: CDS 540. D 12 867 0 1220


**910. Communicative Sciences: Acoustic Phonetics.** (3). 3R; 2L. A critical review of research dealing with the acoustic characteristics of speech. Also included are speech perception and techniques of speech synthesis and analysis. Prerequisite: CDS 828. D 12 910 1 1220

**920. Neurophysiology of Communication.** (2). Special lectures, seminars, clinical demonstrations and independent study. D 12 920 0 1220

### Speech and Language Pathology

#### Lower-Division Course

**111Q. Disorders of Human Communication.** (3). An orientation to disorders of human communication, communicative and psychological problems commonly encountered and general approaches to habilitation. D 12 111Q 0 1220

**132. Introduction to Clinical Management in Speech and Language Pathology and Audiology.** (3). 3R; 2D. An overview of management procedures for communicative disorders in relation to other educational disciplines. Techniques for observation of speech-language pathology management and audiology diagnostic procedures. Prerequisites: junior standing and prior or concurrent enrollment in CDS 1110 and medical clearance. D 12 132 1 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: CDS 214 and 218. D 12 315 0 1220

**322. Introduction to Speech and Language Assessment.** (2). 2R; 2L. Test instruments pertaining to the assessment of speech and language disorders are considered. Test validity, reliability and interpretation are discussed. The student is provided the opportunity to administer tests under supervision. Observation of diagnostic evaluations in the WSU Speech-Language-Hearing Clinic is required. Prerequisites: CDS 315, junior standing and medical clearance. D 12 322 1 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, writing IEPs, therapeutic management, record keeping and utilization of various intermediate resources. Prerequisites: taken the semester prior to student teaching—CDS 447 and 448. Prerequisites: CDS 132, 315 and 322. This course may be taken concurrently with CDS 322. 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: taken with a prior or senior standing who is eligible for the Emory Lindquist Honors Program. D 12 400H 1 1220

**417. Clinical Methods in Articulation and Language.** (3). Techniques and methods for development of clinical skills in a supervised practicum setting. Children with articulation and language disorders will provide the primary focus. Lecture material will include clinical procedures for writing behavioral objectives and progress reports and conducting parent conferences. Prerequisites: sophomore standing, CDS 132 and 315; prior or concurrent enrollment in CDS 322; departmental consent one semester prior to enrollment; and medical clearance. D 12 417 0 1220

**418. Supervised Practicum in Articulation and Language.** (1). Supervised practicum of clinical assignments in the University Speech-Language-Hearing Clinic. Prerequisites: prior or concurrent enrollment in CDS 417. D 12 418 1 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, CDS 327, 417 and 418, 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 CDS 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. D 12 490 3 1220

Admission to courses is possible with a minimum grade of C in each stated prerequisite or its judged equivalent, or with departmental consent, unless otherwise specified in the course description.

Courses for Graduate/Undergraduate Credit

520. Language Disabilities in Children. (3). Psycholinguistic and cognitive approaches to language disabilities in children. Practical application of language assessment procedures. Interpretation of results and methods of language intervention are covered. Prerequisite: CDS 111Q or 705, 220 or departmental consent. D 12 520 0 1220

700. Cleft Palate: Evaluation and Clinical Management. (3). Methods of evaluating and modifying articulation and resonance in cleft palate individuals. The role of the speech clinician within an interdisciplinary team is explored. Consideration is given to other organic anomalies. Prerequisite: prior or concurrent enrollment in CDS 214. D 12 700 0 1220

705. Communicative Disorders. (3). Cross-listed as Comm. 665. A survey of speech, language, and hearing disorders; their identification and treatment; and consideration of the roles of health and educational specialists in the total habilitative process. Background in normal communicative structures, processes and acquisition is provided for understanding communicative disorders. Areas introduced include language disabilities in children, adult aphasia, articulation disorders, voice disorders, cleft palate, laryngectomy, stuttering, cerebral palsy and hearing impairment. Not open to students majoring in CDS. Credit in both CDS 111Q and 705 is not allowed. D 12 705 0 1220

720. Stuttering: Diagnosis and Clinical Management. (3). A review of current theories on the etiology and development of the disorder. Behaviorally based diagnostic procedures for children and adults are covered, as are methods for clinical management and real-life generalization, including procedures for parent and client interviewing and counseling. Opportunities for observation and demonstration therapy are provided. D 12 720 0 1220

725. Voice Disorders: Diagnosis and Clinical Management. (3). Review of current knowledge on the symptomatology and etiology of commonly encountered voice disorders in children and adults. Presentation of procedures for differential diagnosis and clinical management, based on a working knowledge of the anatomy and physiology of normal voice production. Prerequisite: at least senior standing and CDS 214. D 12 725 0 1220

727. Teaching English as a Second Language. (2-3). Cross-listed as Eng. 727 and Ling. 727. Current methods of teaching English to nonnative speakers are discussed. Students learn to analyze language patterns and to design appropriate teaching units for class and language laboratory use. 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 rehabilitative regimens for adults. Prerequisite: prior or concurrent enrollment in CDS 610. D 12 805 0 1220

810. Cerebral Palsy: Evaluation and Clinical Management. (3). The study of cerebral palsy and related neurological disorders. Analysis and modification of speech and speech-related functions; study of methods of integrating speech, language and hearing disorders; consideration of the roles of health and educational specialists in the total habilitative process. Background in normal communicative structures, processes and acquisition is provided for understanding communicative disorders. Areas introduced include language disabilities in children, adult aphasia, articulation disorders, voice disorders, cleft palate, laryngectomy, stuttering, cerebral palsy and hearing impairment. Not open to students majoring in CDS. Credit in both CDS 111Q and 705 is not allowed. 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). Methods of evaluating communicative disorders in children, with emphasis on the use of speech, language, hearing, learning and behavior assessment procedures. Prerequisites: medical clearance and terminal counseling. D 12 820 0 1220

824. Language Remediation Strategies—Birth to 5. (3). Discussion of current language intervention strategies and programs for infants, toddlers and preschoolers, birth to 5 years. Assessment procedures leading to the development of individualized and family programs are also examined. D 12 824 0 1220

825. Seminar in Communicative Disorders. (2-3). Review of recent developments and a study of methods of integrating research findings and newer clinical methods and concepts into a rehabilitative procedure. D 12 825 3 1220

834. Beginning Graduate Practicum in Communicative Disorders. (1). 1R. Supervised application of diagnostic and clinical management techniques with children and adults presenting communicative disorders. Introduction to supervised practicum at the graduate level. Clinical and practicum procedures are stressed in the lecture portion of the course. Fifty hours of practicum are required. Intended for students in their first semester of full-time graduate studies. Prerequisites: CDS 417 and 418 or equivalent, CDS 447 or equivalent, departmental consent and medical clearance. D 12 834 2 1220

835. Graduate Practicum in Communicative Disorders. (1-3). 3-9L. Supervised application of diagnostic and/or clinical management techniques with children and adults presenting communicative disorders. Fifty hours of practicum for each hour of credit is required. Repeatable. Prerequisites: CDS 834 or equivalent, departmental consent and medical clearance. D 12 835 2 1220

Audiology

Lower-Division Course

231. Introduction to Audiology. (3). 1R; 4L. History and scope of the field. Basic aspects of normal hearing function are studied and a survey of audiology testing procedures, including audiometric screening, is made. An introduction to the use of hearing aids and auditory training. In reading and rehabilitative counseling is also included. Prerequisites: CDS 111Q. D 12 231 1 1220

Upper-Division Courses

441. Beginning Practicum in Audiometry. (1). 1R; 4L. Introduction to supervised practicum and the application of audiometric techniques in clinical situations. Lecture stresses clinical and practical procedures. Four hours of audiometric practicum per week are required. Prerequisites: CDS 231 or equivalent, medical clearance and departmental consent. D 12 441 2 1220

457. Audiology Practicum in the Public Schools. (5). Half-time participation in a public school audiology program under the guidance of a certified clinician and a college supervisor. Prerequisites: CDS 231, 327 and 441, senior standing, medical clearance and departmental consent one semester prior to enrollment. D 12 457 2 1220

458. Public School Audiology Programs. (2). Discussion and evaluation of student audiology experiences in public schools; demonstration of applied audiologic skills; counseling on the elementary and secondary school levels. To be taken concurrently with CDS 457. D 12 458 9 1220

540. Introduction to Audiological Technique. (3-5). 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. Students majoring in audiology enroll for five hours of credit. Prerequisite: CDS 231 and at least junior standing. D 12 540 1 1220

Courses for Graduate/ Undergraduate Credit

747. Rehabilitative Audiology. (3). Educational and psychological impact of hearing loss. Methods of improving the educational and family environment for the benefit of the hearing impaired are covered. Procedures for maximal usage of amplification are discussed. Speech reading and auditory training are studied as methodologies for dealing with speech and language deficits by utilizing auditory and visual cues. Prerequisite: CDS 231. D 12 747 0 1220

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R/2L means four hours of lecture and two hours of lab.
Upper-Division Course

360. Signing Exact English II. (1), 2R. An advanced class in the theory and use of Signing Exact English (SEE) as a means of communication with the hearing impaired. Vocabulary and interpreting skills will be emphasized. Prerequisite: CDS 260. D 12 360 0 1220

Course for Graduate/Undergraduate Credit

760. Introduction to Deaf Education. (3). 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: CDS 231. D 12 760 0 1220

General

Lower-Division Course

281. Cooperative Education. (1-8). A course offered to allow students to participate in the cooperative education program. Offered Cr/NoCr only. D 12 281 0 1220

Upper-Division Courses

481. Cooperative Education. (1-8). A course offered to allow students to participate in the cooperative education program. Offered Cr/NoCr only. D 12 481 0 1220

490. Directed Study in Speech and Language Pathology or Audiology. (1-3). Individual study or research on specific problems. Repeatable. Instructor's consent must be obtained prior to enrollment. D 12 490 3 1220

Courses for Graduate/Undergraduate Credit

715. Selected Topics in Communicative Disorders and Sciences. (1-3). Individual or group study in specialized areas of communicative sciences and disorders. Repeatable. D 12 715 0 1220

750. Workshop in Communicative Disorders and Sciences. (1-4). A course offered periodically on selected aspects of speech and hearing habilitation. D 12 750 0 1220

Industrial Technology

The overall goal of the Department of Industrial Technology is to provide a broad concept of industrial strategies. Within this concept students are given specific, educational content that will allow them to pursue a management-oriented technical profession. The curriculum is built upon a sound knowledge and understanding of materials, processes, technical management and human relations. Proficiencies in the physical
Teacher Certification requirement: 32
Total Hours: 136
Technical Option Hours
General Education* 42
Technical Specialty (transferred) 30
Industrial Technology Courses 42
Supplemental required courses 15
Total Hours: 129

*General Education courses must include literature, Division A; Psychology 111Q, Division B; Chemistry 111Q, Division C; and Physics 111Q, Division C.

Model Program (Teaching Option)

Freshman
Course  Hrs.
Engl. 101, College English I (C or better) 3
Engl. 102, College English II (C or better) 3
Math. 111, College Algebra 3
Math. 123, College Trigonometry 3
I. Tec. 120, Drafting I 3
I. Tec. 121, Drafting II 3
Technical Specialty 12

Sophomore
Course  Hrs.
Phys. 111Q, Introduction to Physics 4
Comm. 111, Basic Public Speaking 3
Psy. 111Q, General Psychology 3
Chem. 111Q, General Chemistry 5
Technical Specialty 12
Humanities (Division A) 12

Summer
Course  Hrs.
General Education electives 6

Junior
Course  Hrs.
I. Tec. 300, Concepts of Industrial Education 3
I. Tec. 310, Safety, Product Liability and Litigation 3
I. Tec. 440, Industrial Technology Education 3
I. Tec. 470, Industrial Organizational Analysis 3
I. Tec. 481-A, Cooperative Education Part I 4
IS 231, Teacher Education Lab 0
IS 232, Introduction to Professional Education 2
ISPE 234, Philosophy and History of Education 2
ISEP 333, Educational Psychology: Adolescent Development 3
Humansities including 3 hours Literature (Division A) 6
Social/Behavioral Science (Division B) 3

Junior
Course  Hrs.
I. Tec. 300, Concepts of Industrial Technology 3
I. Tec. 310, Safety, Product Liability and Litigation 3
I. Tec. 470, Industrial Organizational Analysis 3
I. Tec. 481-A, Cooperative Education Part I 4
Psy. 316, Industrial Psychology 3
Social/Behavioral Science (Division B) 3
Emphasis is placed on combining metals by materials, machines and hand tools used by the problems in production techniques; compression and injection moldings; recent developments in the production and consumption of manufactured products and construction of molds and forms for molding, casting, laminating and thermoforming. Prerequisite: I. Tec. 240. D 11 325 0 0839

**Summer**

**Course** | **Hrs.**
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I. Tec. 480, Applied Problem Solving | 3
I. Tec. 481-B, Cooperative Education Part II | 4
DS 350, Introduction to Production and Operations Management | 3

**Senior**

**Course** | **Hrs.**
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I. Tec. 360, Industrial Design Technology | 3
I. Tec. 400, Computer Applications in Industry | 3
I. Tec. 430, Product Development | 3
Mgmt. 462, Leadership and Motivation | 3
I. Tec. 320, Quality Assurance | 3
I. Tec. 490, Senior Problems in Industrial Technology | 3
I. Tec. 481-C, Cooperative Education Part III | 3
Mgmt. 360, Concepts of Administration | 3
I. Tec. 350, Construction: Cost Estimating, Blueprint Reading | 3

**Lower-Division Courses**

112. Construction Technology. (3), 2R; 3L. A course emphasizing the understanding of technology and the scope of industry as it applies to construction. Instruction includes occupationally oriented laboratory activities to reinforce the student's understanding of how man plans, organizes and controls all available resources to produce products on 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 1 0839

121. Drafting II. (3), 2R; 3L. A study of the relationship of views in drafting, with emphasis on rotation, projection of solids, planes and lines using standard drafting techniques and procedures. Prerequisite: I. Tec. 120. D 11 121 1 0839

170. Materials and Processes. (3), 2R; 3L. A study of basic material processing methods, emphasizing those processes 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 1 0839

180. Power and Energy. (3), 2R; 3L. A study of energy sources, means for harnessing energy, transmitting energy and the effects of power systems. The major types of power and energy to be considered are mechanical, fluid, electrical and combinations. D 11 180 1 0839

190. Visual Communications. (3), 2R; 3L. A study of systematic procedures common to the 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 1 0839

230. 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 11 230 1 0839

240. Woodwork I. (3), 2R; 3L. A study of the use and care of hand and power tools, methods of finishing, wood technology and an overall view of the woods industry. D 11 240 1 0839

255. Power Mechanics I. (3), 2R; 3L. A study of the operation of motor vehicles, including chassis and drive-line components. Lab experiences include design techniques and procedures. D 11 255 1 0839

260. Plastics I. (3), 2R; 3L. Study of plastic materials being used in industry; fundamental operations including molding, casting, thermoforming, fabrication and finishing. D 11 260 1 0839

280. Electricity I. (3), 2R; 3L. A study of basic principles of electricity and electronics as related to home and industry. Emphasis on electrical theory, transmission and utilization. Laboratory activities include experimentation and fabrication of electrical components. D 11 280 1 0839

Upper-Division Courses

300. Concepts of Industrial Technology. (3). An introduction to industrial technology, including how materials are altered by industrial processes; utilization and application of energy systems; and the processes of industrial visual communications. D 11 300 0 0839

310. Safety, Product Liability and Litigation. (3). The study of corporate policies as related to accident prevention programs for safety and control of plant health and safety of the perspective of the industrial technologist. Emphasis upon safety, safety education, product liability and litigation. Prerequisite: departmental consent. D 11 310 0 0839

320. Quality Assurance. (3). Industrial practices with respect to the control of quality of manufactured products and the performance of projects including standards, inspection, organization, sampling, corrective and preventive measures. Quality assurance simulations will be provided. Prerequisite: departmental consent. D 11 320 0 0839

325. Woodwork III. (3), 2R; 3L. For advanced woodworking students with special emphasis on tools, materials and construction practices as they relate to the building trades. Prerequisite: I. Tec. 240. D 11 325 1 0839

328. Drafting III. (3), 2R; 3L. Development of working drawings; formation of a micract, structural steel, electrical, architectural details, pipe, map and patent drawings—all conforming to industrial and prescribed standards. Prerequisite: I. Tec. 121. D 11 328 1 0839

330. Manufacturing: Estimating, Planning and Scheduling. (3). Production planning and scheduling of human resources in relation to facilities, tools, equipment, capital and materials. Emphasis is placed on computer data base information to enhance standardized techniques used in product and service management. Prerequisite: departmental consent. D 11 330 0 0839

331. Metals II. (3), 2R; 3L. A study of materials, machines and hand tools used by the metalworking industry and intermediate machine tool operations. Prerequisite: I. Tec. 230. D 11 331 1 0839

337. Metals III. (3), 2R; 3L. A study of the structure, physical and mechanical properties of metals and the effect of heat treatment on these characteristics. An introduction to hot working metals by forging and casting. Emphasis is placed on combining metals by oxyacetylene, arc, MIG and TIG welding techniques. Prerequisite: I. Tec. 230. D 11 337 1 0839

340G. Appropriate Technology. (3). A study of new technological approaches and their contribution to quality living. Technological options in the production and consumption of food, clothing, shelter, energy, communications and transportation will be explored and a framework developed for making wise choices within the options. This course may not be counted toward an industrial education major. D 11 340G 0 0839

341. Woodwork II. (3), 2R; 3L. A study in design, construction and finishing of woodworking objects and the pertinent elements of design and the procedural steps in designing products related to construction and manufacturing. Prerequisite: I. Tec. 240. D 11 341 1 0839

350. Construction: Cost Estimating and Blueprint Reading. (3). Techniques of conveying information from the architect/engineer to the contractor by means of a legal document; the basic ability to implement that contractual understanding. D 11 350 0 0839

351. Power Mechanics II. (3), 2R; 3L. A study of motor vehicles, including tune-up, electrical theory, transmission and utilization. D 11 351 1 0839

360. Industrial Design Technology. (3). An introduction to industrial design technology stressing the pertinent elements of design and the procedural steps in designing products related to construction and manufacturing. Prerequisite: departmental consent. D 11 360 0 0839

361. Plastics II. (3), 2R; 3L. Technical information and product development and construction of the pertinent elements of design and the procedural steps in designing plastics for particular products. Prerequisite: I. Tec. 240. D 11 361 1 0839

362. Plastics III. (3), 2R; 3L. Advanced problems in production techniques; compression and injection moldings; recent developments and experimental work. Prerequisite: I. Tec. 260. D 11 362 1 0839
62

381. Electronics I. (3). 2R; 3L. A basic study of electronics including the function of components, circuits, networking and transistor theory as applicable to analog electronics are studied and applied through experimental and project construction. Prerequisite: I. Tec. 290. D 11 381 1 0839

384. Electronics III. (3). 2R; 3L. Course includes experimental applications and utilization of semiconductors in electronic circuitry. Emphasis is placed on utilization of closed-loop, continuous and semicontinuous process and discrete parts. Prerequisites: Departmental consent. D 11 426 1 0839

400. Computer Applications in Industry. (3). Introduction to computing methods, understanding and appreciation of micro- and mini-computer capability that impacts upon industry. Prerequisites: CS 105 or CS 110Q or equivalent. D 11 400 0 0839

420. Machine Control Systems. (3). The control of industrial machines through electronic means. Introduction to computing methods, understanding and appreciation of micro- and mini-computer capability that impacts upon industry. Prerequisites: CS 105 or CS 110Q or equivalent. D 11 400 0 0839

422. 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: I. Tec. 341. D 11 426 1 0839

429. Drafting IV. (3). 2R; 3L. Advanced study for 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: Departmental consent. D 11 429 1 0839

430. Product Development. (3). An applications course for industrial personnel involved in product development. Emphasis is placed upon the "team" approach in formulating ideas, determining products, marketing research, feasibility studies protection, determining profit margins, building prototypes, productivity and performance testing. Prerequisites: I. Tec. 300, 310 and 320 or concurrent enrollment. D 11 430 0 0839

440. Industrial Technology Education. (3). An introduction to a variety of conditions, role models, curriculum plans, classroom/laboratory methodologies and simulations. Emphasis upon procedures used in industry. D 11 440 0 0839

443. Methods of Teaching in the Comprehensive General Shop. (2). 2R; 3L. Preparation for teaching in industrial technology in the comprehensive general shop. Emphasis is placed upon theory, organization and operation of a comprehensive general shop program. Prerequisites: Departmental consent. D 11 443 1 0839

450. Metals IV. (3). 2R; 3L. Fundamentals of bench work and basic operations of lathes, mills, grinders, shapers and drills. Prerequisite: I. Tec. 331. D 11 450 1 0839

457. Power Mechanics IV. (3). 2R; 3L. Advanced study in the power mechanics field with emphasis placed on problems growing from the needs of the student. Prerequisite: Departmental consent. D 11 457 1 0839

463. Plastics IV. (3). 3R; 3L. Advanced problems in production techniques. Experiments, cereal casting and training are included and recent developments and experimental work are explored. Prerequisite: I. Tec. 362. D 11 463 1 0839

470. Industrial Organizational Analysis. (3). An analysis of industrial concepts, models and organizational structures. Course work will be cooperatively arranged. Prerequisite: concurrent enrollment with I. Tec. 481-A. D 11 470 0 0839

480. Applied Problem Solving. (3). Synthesis of previous course work in special technical and management problems relative to the students' area of technical emphasis. Techniques with which the student can address problems in a logical, systematic sequence. Group participatory problem-solving strategies are stressed. Prerequisite: concurrent enrollment in I. Tec. 481-B or departmental consent. D 11 480 0 0839

481. Cooperative Education. (1-8). A course offered to allow students to participate in the Cooperative Education program. Offered spring semester only. Prerequisite: Concurrent admission to the Cooperative Education program. D 11 481 2 0839

481A Cooperative Education—Part 1. (4). This is the first of three required courses designed to develop both the managerial and technical skills of the student participant. Provides students an opportunity to obtain experience with state-of-the-art equipment and techniques. Students will, relative to their specific employers, pursue educational inquiry into marketing, production, industrial relations and management. Prerequisites: Junior standing and concurrent enrollment in I. Tec. 470. D 11 481A 2 0839

481B Cooperative Education—Part 2. (4). The second of three required courses designed to develop both the managerial and technical skills of the student participant. Provides students an opportunity to obtain experience with state-of-the-art equipment and techniques. Students will, relative to their specific employers, pursue educational inquiry into marketing, production, industrial relations and management. Prerequisites: Junior standing and concurrent enrollment in I. Tec. 470. D 11 481B 2 0839

481C Cooperative Education—Part 3. (4). The third of three required courses. The students' level of experience in their technical specialty and their experience in I. Tec. 481A determines the appropriate co-op level for placement. Students will be placed on both application and theory through involvement with specific problems in business and industry. Job requirements and employer expectations should increase concurrently with the student's academic progression. Prerequisites: I. Tec. 481A and concurrent enrollment in 480. D 11 481C 2 0839

485. Electronics IV. (3). 2R; 3L. Motors and generators, synchros and synchrocontrol systems; servomechanisms and control devices; and electronic control systems. Introduction to microwaves and microwaves of communication systems. Prerequisites: I. Tec. 480, 481-A, 481-B and concurrent enrollment in 490. D 11 485 1 0839

490. Senior Problems in Industrial Technology. (3). Provides a format for faculty participation and guidance in the identification, research and solution of an industrial problem. Culminating course in the department prior to graduation. Prerequisites: I. Tec. 481, 481-B and concurrent enrollment in I. Tec. 481-C. D 11 490 4 0839

498. Directed Studies in Power and Energy. (3). Provides an opportunity for the advanced student to pursue an area of emphasis within the realm of power and energy. The method of study will be research, basic and applied, or a combination thereof, in consultation with the professor, culminating in a research project and/or report. Prerequisites: Departmental consent. D 11 570 4 0839

572. Basic N/C Programming. (3). Lecture/laboratory course in the use of numerically controlled machine tool design, utilization, programming, tooling and operation. Prerequisite: six hours machine tool operations or equivalent. D 11 572 0 0839

575. Composite Material Applications. (3). An introduction to the description and application of composite materials. Emphasis placed on postsecondary course in plastics or equivalent industrial experience. D 11 575 0 0839

580. Directed Studies in Power and Energy. (3). Provides an opportunity for the advanced student to pursue an area of emphasis within the realm of power and energy on a synthesis level. The method of study will be research, basic and applied, or a combination thereof, in consultation with the professor, culminating in a research project and/or report. Prerequisites: Departmental consent. D 11 580 4 0839

590. Directed Studies in Visual Communications. (3). Provides an opportunity for the advanced student to pursue an area of emphasis within the realm of visual communication on a synthesis level. The method of study will be research, basic and applied, or a combination thereof, in consultation with the professor, culminating in a research project and/or report. Prerequisites: Departmental consent. D 11 590 4 0839

592. Desktop Publishing. (3). Desktop publishers control the entire publishing process, from creation and typesetting to printing and distribution, with equipment from the desktop. Word processing on the per-
sonal computer and laser printing are the two technological achievements that make possible a desktop publishing revolution. Type design, harmony, legibility, copy fitting and other fundamental are stressed.

594. Offset Lithography. (3). Principles and techniques of preparing computer-generated and other original copy, processing lithographic negatives and plates, as well as operating offset printing presses. Laboratory included. Prerequisite: departmental consent.

596. Introduction to Computer Aided Drafting (CAD). (3). A course in interactive computer graphics that provides hands-on experience and basic information necessary for students to implement, modify and use a computer graphics system. Course enables students to learn methods of input and output and teaches the fundamentals of CAD using various microcomputer based CAD system applications. Mainframe CAD system applications will be demonstrated. Prerequisite: D 11 596 0 0839

597. VersaCAD. (3). Introduction to CAD is designed to give an individual with no previous CAD background an exploratory experience in Computer Aided Drafting. VersaCAD software will be introduced to the students who will complete a workbook of sample drawings designed to cover the major operations of the software. After the sample drawings are completed, a major project using the computer will be required. Each student will receive 64 hours of computer time. Prerequisite: D 11 597 0 0839

598. AutoCAD. (3). A basic Computer Aided Drafting course utilizing AutoCAD software to produce mechanical and assembly-type drawings. Prerequisite: D 11 586 0 0839

700. Workshop in Industrial Technology. (1-4). Offered from time to time on various aspects of industrial technology. Prerequisite: D 11 750 2 0839

710. Explorations in Technology. (1-4). A course designed to develop knowledge and competence related to curricular and methodological innovations in industrial education. The content is designed to satisfy those competencies that are identified as essential in teaching a defined subject area. Prerequisite: departmental consent. Prerequisite: D 11 751 0 0839

792. Explorations in Technology. (3). Participants will experience the modular curriculum approach for the middle level student, including teacher materials, demonstration equipment and specific laboratory equipment. Teachers will gain insight into methodologies for proper delivery of the curriculum and gain familiarity with the presentation format and laboratory equipment. Prerequisite: departmental consent. Prerequisite: D 11 792 0 0839

796. Principles of Technology 1. (3). Prepares teachers to teach Principles of Technology Units 1-7 through experiential familiarity with technical materials, equipment, videos and laboratory manuals. Emphasis is on presentation format and laboratory equipment. Prerequisite: departmental consent. D 11 796 2 0839

797. Principles of Technology 2. (3). Prepares teachers to teach Principles of Technology Units 8-14 through experiential familiarity with technical materials, equipment, videos and laboratory manuals. Emphasis is on presentation format and laboratory equipment. Prerequisite: D 11 797 2 0839

Courses for Graduate Students Only

820. Foundations for Curriculum Development in Industrial Technology. (3). A study of the theory and practice of curriculum development as determined by social, cultural and industrial changes, including current industrial technology curriculum designs, problems and trends. Prerequisite: D 11 820 0 0839

821. Curriculum Construction in Industrial Technology. (3). Selection and construction of curriculum content for general and specialized areas of study in industrial technology. Prerequisite: D 11 821 0 0839

840. Instructional Technology in Industrial Technology. (3). A course designed to acquaint graduate students with the emerging technology of instruction. The course includes a study of programmed instruction, systems approach to instruction, instructional television, projected media, motion films, computer-assisted instruction, learning resource centers and other pertinent topics. Students are involved in planning and preparing instructional material using systematic procedures. Prerequisite: departmental consent. Prerequisite: D 11 840 0 0839

850. Seminar in Industrial Technology. (1-3). Innovations and critical analysis of contemporary problems in industrial technology and vocational education with directed reading and research. Repeatable. Prerequisite: D 11 850 0 0839

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

231. Teacher Education Lab. (0). During the sessions, students receive information concerning the English and mathematics competency examinations and are given the audiovisual and computer equipment use course. Prerequisite: 2.50 GPA; C or better in Engl. 101, 102 and Comm. 111 or 112; 50 hours credit by the end of the semester of enrollment. Prerequisite: D 21 231 2 0801

232. Introduction to Professional Education. (2). This first course in professional education permits students to become acquainted with formal guidance. Teaching as a profession, the school as an organization, the nature of the curriculum, human relations aspects of education and career options outside the public schools are the major topics studied. Prerequisite: sophomores standing and grade of C or better in Engl. 101 and 102. Prerequisite: D 21 232 0 0801

290. Directed Study. (2-3). Prerequisite: D 21 290 2 0801

Upper-Division Courses

452. Special Studies in Education. (1-3). Designed primarily for elementary and secondary education majors. Repeatable for credit. Offered from time to time on various aspects of education and career options outside the public schools are the major topics studied. Prerequisite: concurrent enrollment in secondary or elementary student teaching. Prerequisite: 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. Prerequisite: 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. Prerequisite: D 21 456 0 0801

481. Cooperative Education. (1-8). The goal of this course is to provide the student a work-related placement that integrates theory and experience designed to complement and enhance the student’s academic program. Prerequisite: successful completion of 24 credit hours, 2,250 grade point average and IS 232. Repeatable for credit. Prerequisite: Offered C/NCR only. Prerequisite: D 21 481 2 0801

490. Individual Studies in Education. (1-3). Prerequisite: D 21 490 3 0802

Courses for Graduate/Undergraduate Credit

620. Introduction to Middle-Level Education. (3). An overview of the historical, philosophical, social and psychological factors affecting the movement toward better educational opportunities for learners from ages 10 to 14. Prerequisite: D 21 620 0 0829

621. Curriculum/Instruction Alternatives for Middle-Level Education. (3). An exploration into the development of alternative curricular organizations and instructional strategies for better meeting the needs of preadolescents in grades five through nine. Prerequisite: D 21 621 0 0829

703. Research and Implementation of Learning Centers. (3). This course will consider a variety of alternative approaches to the teaching of students at all grade levels and subject matter areas via learning centers. Prerequisite: 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 extend, enrich and reinforce human relationships. Prerequisite: 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 extend, enrich and reinforce human relationships. Prerequisite: 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. Prerequisite: D 21 718 0 0829

720. Microcomputers in the Classroom. (3). Course is designed to familiarize stu-
students with the various areas of computer application in education. No computer experience is necessary. Students develop a working knowledge of computer functions, applications, software and languages that are relevant to ordinary classroom use. Prerequisite: upper division standing. D 21 720 1 0899

721. Beginning AppleSoft BASIC. (1). An introduction to classroom programming applications. Students develop a practical and working level of skills in programming AppleSoft BASIC and are able to plan, write, debug and modify simple programs for classroom use. Prerequisite: IS 720 or equivalent. D 21 721 1 0899

722. LOGO Implementation. (3). Course is designed to acquaint students with the philosophy of LOGO, teach the LOGO language in its classroom applications, develop curricular activities which stress problem solving and LOGO teaching techniques. Prerequisite: IS 720 or equivalent. D 21 722 1 0899

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 writing skills, through word study and reading 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

750. Workshops in Education. (1-4). D 21 750 2 0803

760. Parents as Partners in Education. (3). An introduction to ways of working with parents of elementary and preschool children and an analysis of formal and informal approaches, with emphasis on the teacher's role in developing these procedures. Prerequisite: IS 250 or instructor's consent. D 21 760 0 0823

Instructional Services—Early Childhood

448. Student Teaching in Early Childhood. (6). The student teaching program provides half-time participation in the preschool (three- and four-year-olds) under guidance of a master teacher and a college supervisor. Prerequisites: IS 231, ISEP 231, 331, 406, 420 and 444 and nine semester hours of early childhood education. Prerequisites may be waived for equivalent experience with departmental consent. D 21 448 2 0823

Courses for Graduate Students Only

838. Curriculum Alternatives. (3). An examination of curriculum models that are alternatives to the traditional curriculum and the socio-economic, political and psychological factors that motivate their development. Attention is given to a comparison of historical and contemporary models for the curriculum. D 21 838 0 0829


862. Presentation of Research. (1-2). A project submitted in the form of a manuscript. Repeatable for a maximum total of two hours of credit. Prerequisite: IS 860. D 21 862 4 0824

Instructional Services—Educational Psychology

875-876. Master's Thesis. (2-4). 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

Upper-Division Courses

333. Educational Psychology: Adolescent 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 formal admission into the teacher education program. D 21 333 0 0822

443. 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 ISEP 716. Prerequisites: IS 232 and ISEP 233 or 333. D 21 433 0 0822

Courses for Graduate/Undergraduate Credit

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

716. Principles of Learning and Evaluation for Teachers. (3). A study of the learning process and principles related to learning in the classroom. Consideration of study are given to evaluation of the products of learning. Students extend their knowledge by a thorough review of research. It may be substituted for ISEP 433 but is not open to students with credit in ISEP 433. Prerequisite: ISEP 333. D 21 716 0 0824

878. Growth and Development I: Infancy and Early Childhood. (3). The growth of the infant and young child from birth to approximately age five in the areas of physical, cognitive, psychosocial and moral development. Not open to students who have taken Ed. Psych. 730 (no longer offered). Prerequisite: ISEP 233 or 333 or instructor's consent. D 21 728 0 0822

Instructional Services—Educational Psychology

Upper-Division Courses

333. Educational Psychology: Adolescent 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 formal admission into the teacher education program. D 21 333 0 0822

443. 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 ISEP 716. Prerequisites: IS 232 and ISEP 233 or 333. D 21 433 0 0822

Courses for Graduate/Undergraduate Credit

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

716. Principles of Learning and Evaluation for Teachers. (3). A study of the learning process and principles related to learning in the classroom. Consideration of study are given to evaluation of the products of learning. Students extend their knowledge by a thorough review of research. It may be substituted for ISEP 433 but is not open to students with credit in ISEP 433. Prerequisite: ISEP 333. D 21 716 0 0824

878. Growth and Development I: Infancy and Early Childhood. (3). The growth of the infant and young child from birth to approximately age five in the areas of physical, cognitive, psychosocial and moral development. Not open to students who have taken Ed. Psych. 730 (no longer offered). Prerequisite: ISEP 233 or 333 or instructor's consent. D 21 728 0 0822
Courses for Graduate Students Only

800. Principles and Applications of Educational Psychology. (3). A critical examination of the major topical areas traditionally defined as educational psychology. After examination of basic paradigms and strategies of the discipline, students apply them to such areas as instructor's practices and design, classroom management and discipline, etc. Prerequisite: ISEP 233, 333 or 433 or instructor's consent. D 21 800 0 0822

801. Introduction to Educational Research. (3). An introduction to research in education. Included in the course content are: (1) a survey of current educational research, (2) the nature of research methodology, (3) the development 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: ISEP 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 differences between means, simple factorial designs, designs involving matched groups, designs involving repeated measure of the same group and analysis of covariance. Prerequisite: ISEP 704 D 21 823 0 0824

Instructional Services—Elementary Education

Upper-Division Courses

316. Children's Literature. (3). Books, materials and activities suitable for use with children in the preschool and elementary grades. Prerequisite: ISEP 233 or instructor's consent. D 21 730 0 0822

370. Growth and Development III: Adolescence. (3). An age-related study of physical, cognitive, psychological and moral development. Prerequisite: ISEP 233 or instructor's consent. D 21 731 0 0822

371. Growth and Development IV: Adults and Aging. (3). Cross-listed as Geromn 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: ISEP 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 developing desirable social-emotional behavior and learning patterns. Emphasis is on the preschool and elementary school child. Prerequisite: ISEP 233 or departmental consent. D 21 732 0 0818


421. Elementary Reading Practicum. (3). A competency-based course with an independent study component and a 22-hour practicum experience. Students are divided into groups and assigned to teaching responsibilities in a public school setting. Prerequisite: IS 232 and ISEP 233. D 21 421 0 0830

420. Reading in the Elementary School. (3). A survey of the methods of teaching reading, scope and sequence of reading skills, instructional materials and the organization of learning experiences. Observation and participation in a public school may be required. Prerequisites: IS 232 and ISEP 233. D 21 420 0 0830


459. Student Teaching in the Elementary School—Art. (3). Prerequisites: art education major and IS 231. 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 for use in the classroom and in use. Prerequisites: IS 232 and ISEP 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

734. Affective Approaches to Teaching Reading. (3). The course develops specific methods for developing a literature program for children (preschool—elementary years). Specific emphasis is on extending literature to current curriculum practices, materials and interpretation of group reading tests. Contains a diagnostic practicum. Prerequisite: ISEP 705. D 21 802 0 0830
806. Introduction to Graduate Study in Elementary Education. (3). The field of elementary education is explored; its history and trends, reasons for teaching, criteria of professionalism, program orientation and requirements and options for the student pursuing a degree are delineated. D 21 806 0 0802

821. Classroom Reading Practicum. (3). Designed to provide practicum experiences in delivering developmental and corrective reading instruction in the classroom setting. Prerequisite: ISEE 705 and 846, or 802, or equivalent. D 21 821 2 0834

842. Remedial Reading Practicum. (3). Emphasis upon individual corrective treatment of diagnosed reading difficulties. A laboratory practicum in remedial reading instruction is required. Prerequisites: ISEE 705 and 846 or equivalent. D 21 842 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 learning characteristics. Prerequisite: ISEE 806. 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: ISEE 705 or equivalent. D 21 846 2 0830

849. Seminar in Reading Organization. (3). Designed to examine the organization and administration of reading programs. Additional emphasis is placed on selecting appropriate data and on research in the area of reading instruction. Prerequisite: ISEE 705 or equivalent. D 21 849 9 0830

852. Improvement of Instruction in Language Arts. (3). Recent developments in the teaching of language arts in elementary and/or middle school grades; problems, concerns, curricula, methods, materials and research related to listening and oral, written and visual communication, including "school" writing and creative writing. Students can select particular concepts and related skills for special attention. Excellent for teachers who want to review and apply developments during the past five years. Prerequisite: ISEE 319. D 21 852 0 0829

854. Improvement of Instruction in Social Studies. (3). A study of recent changes in social studies curriculum and instruction designed to investigate strengths and limitations of various approaches. Competency in teaching for concept development, dealing with value-laden issues and teaching for inquiry are stressed. An inquiry-centered learning environment emphasizes personalization of the social studies curriculum for children. Alternate teaching strategies and supplementary evaluative techniques are reviewed and practiced. Prerequisite: ISEE 406 or equivalent. D 21 854 0 0829

856. Improvement of Instruction in Mathematics. (3). For teachers in service. Consideration of recent trends in subject matter content and teaching guides to improve understanding of meanings, vocabulary and mathematical concepts. Instructional methods and materials are included. Prerequisite: ISEE 444 or equivalent. D 21 856 0 0830

859. Improvement of Instruction in Science. (3). For teachers in service. Designed to explore and apply the principles of science that teachers should recognize, understand and consider from kindergarten through grade eight. Prerequisite: ISEE 521 or equivalent. D 21 859 2 0834

856. Seminar in Elementary Education. (3). Prerequisite: ISEE 806. D 21 856 9 0802

853. Trends in Theories of Instruction. (3). Theoretical models are considered through the study of models of teaching. Study of each model covers theoretical orientation, instructional procedures and effects. Practice of models in classroom settings is required. Prerequisite: ISEE 806. D 21 863 0 0829

Instructional Services—Foundations of Education

Lower-Division Course

234. Philosophy and History of Education. (2). A study of the major contemporary educational philosophers and the development of American education. Some emphasis is placed on the students’ examination of their philosophies of education. Prerequisite: IS 232 and formal admission into the teacher education program. D 21 234 0 0821

Upper-Division Course

428. Social and Cultural Foundations of Education. (2). Attention is given to the contributions of sociology and anthropology to the understanding of the school and its position in relation to contemporary social problems. Prerequisites: IS 232 and formal admission into the teacher education program. D 21 428 0 0821

Course for Graduate/Undergraduate Credit

701. Foundations of Education. (3). A survey of the various foundations areas, including philosophical, historical, social and comparative. This course is prerequisite to subsequent foundations courses. D 21 701 0 0821

Courses for Graduate Students Only

807. Philosophy, History and Psychology of Secondary and Elementary Education. (3). An introductory survey of concepts of mind, learning, experience and knowledge, and philosophical, historical and psychological systems and theories as they relate to current educational problems and practices. Prerequisite: ISFD 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: ISFD 701 or instructor’s consent. D 21 808 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.

Courses for Graduate/Undergraduate Credit

707. School Library Media Center Cataloging and Classification. (3). The principles of cataloging and classification are studied, and students learn to apply the Dewey Decimal classification system and Sears subject headings. Descriptive cataloging, types of entry and filing rules also are covered. D 21 707 0 1601

708. School Library Media Center Book Collection. (3). Basic resources for the development and evaluation of a school library media center collection are considered. Emphasis is placed on selection policies and procedures, the school library media specialist’s responsibilities in the selection process and the development of a selection resource file. D 21 708 0 1601

710. School Library Media Center Referential Materials. (3). Resources and techniques of providing reference service in a school setting are investigated. D 21 710 0 1601

712. Current Trends in Librarianship. (3). The course covers the history and development of libraries and their functions, aspects of professional leadership, the study of library literature and current societal and educational changes that have impact on the school library media center. D 21 712 0 1601

713. Administering the School Library Media Program. (3). The course provides a study of national and state standards, as well as an investigation of the school library media center role and the leadership role of the school library media specialist. Specific topics include goal-setting and budgeting, administrative styles and personnel policies, evaluations, design and implementation of policies and procedures and strategies for an integrated program. Course is required for school library media certification majors and is not open to students who have taken ISLD 709 and 711. D 21 713 0 1601

779. Practicum/Internship. (3). A. elementary school; B. middle school; C. high school, D. K-12. Students pursue an professional experience in a school library media center under cooperative supervision of University personnel and an experienced practitioner in the field. Prerequisite: departmental consent. D 21 779 2 1601

790. Special Problems in the School Library Media Center. (1-3). Directed reading and research. Prerequisite: departmental consent. D 21 790 0 1601

Instructional Services—Secondary Education

Lower-Division Course

310. Methods in Physical Education. (3). Presentation and participation in methods of teaching physical education, with emphasis on techniques, skills, organization of activities and classroom procedures. Prerequisites: IS 232, PE 270 and 201A. B. C. D. D 21 310 2 0834
Upper-Division Courses

401. Secondary Reading Foundations. (3). A course designed to provide prospective secondary teachers with an understanding of the development of reading skills and to explore instructional approaches for guiding secondary students in their reading skills and their use in secondary content areas. Prerequisites: instructor's consent. D 21 401 0 0830


B—Field and Laboratory Methods in Biology.
F—The Teaching of Foreign Languages.
M—Methods of teaching foreign languages, based on the audio-lingual approach and applied linguistics contrasted with traditional methods. Laboratory techniques, transition into reading and writing and planning and evaluation of student progress are included.

This course is required of all foreign language majors or minors expecting to teach in junior and senior high schools.

I—Methods of Teaching Industrial Education.
Selection and arrangement of teaching content, methods of teaching, lesson planning, course of study, testing and grading, shop work, evaluating pupil progress, securing industrial education positions and professional responsibility of the shop teacher.

M—Methods of Business Education.
Prerequisites: Bus. E. 234 or data processing, Bus. E. 237 and Acct. 210 and 220. D 21 442 2 0829

454. General Methods of Secondary Teaching. (3).
A—Art (may be taken as Art E. 516)
D—Speech and Dramatic Art
E—English
J—Social Studies
M—Mathematics
S—Science

Preparation for teaching in secondary schools. Develops skills in lesson planning, methods of teaching and organizing classroom activities. Course in public school classroom teaching will be incorporated into this course. Prerequisites: ISEP 433 and ISFD 234 and 428. D 21 454 2 0829

455. Advanced Methods of Secondary Teaching. (1).
A—Art (may be taken as Art E. 516)
D—Speech and Dramatic Art
E—English
J—Social Studies
M—Mathematics
S—Science

Continuation of ISSE 454. Prerequisite: ISSE 454. D 21 455 2 0829

*Student Teaching—Secondary School. The student teaching semester is required of all students working toward a secondary certification and is a full-time assignment. Application for approval to enroll in the program must be made to the coordinator of laboratory experiences by February 1 for the fall semester or by September 1 for the spring semester. In addition, students must obtain approval from the representative of the subject area in which they wish to student teach before placement can be considered.

It is expected that students will student teach in their field of major interest. However, individuals who are well prepared in more than one field may apply to student teach in a second field, but they must take the special methods course in the second field before entering the student teaching semester.

The assignment for student teaching begins with the opening of the public school semester, and enrollees must arrange to meet from 8 a.m. to 5 p.m. daily and to be available for selected evening programs throughout the semester.

Prerequisites: senior standing, IS 231 and 232, ISEP 333 and departmental consent.

* For specific areas see ISSE 462 through 472.

452. Student Teaching—Art. (4 and 7).
Prerequisite: IS 231. D 21 462 2 0829

453. Student Teaching—Biology. (7).
Prerequisite: IS 231. D 21 463 2 0829

454. Student Teaching—Speech and Dramatic Art. (7).
Prerequisite: IS 231. D 21 464 2 0829

455. Student Teaching—English. (7).
Prerequisite: IS 231. D 21 465 2 0829

456. Student Teaching—Foreign Language. (7).
Prerequisite: IS 231. D 21 466 2 0829

467. Student Teaching—Industrial Education. (7).
Prerequisite: IS 231. D 21 467 2 0829

468. Student Teaching—Social Studies. (7).
Prerequisite: IS 231. D 21 468 2 0829

469. Student Teaching—Music. (3).
Prerequisite: IS 231. D 21 469 2 0829

470. Student Teaching—Physical Education. (7).
Prerequisite: IS 231. D 21 470 2 0829

471M. Student Teaching—Mathematics. (7).
Prerequisite: IS 231. D 21 471M 2 0829

471S. Student Teaching—Science. (7).
Prerequisite: IS 231. D 21 471S 2 0829

472. Student Teaching—Business Education. (7).
Prerequisite: IS 231. D 21 472 2 0829

Courses for Graduate/Undergraduate Credit

616. Literature for Adolescents. (3). Extensive reading of literature in all genres consistent with studies of adolescents' reading interests, abilities and responses to literature. Prerequisite: junior standing. D 21 616 2 0829

771. Teaching Reading in the Content Areas. (3). Emphasis is placed on the teaching of reading in the content areas. Prerequisite: secondary teaching experience or departmental consent. D 21 771 2 0830

Courses for Graduate Students Only

831. Evaluation Techniques in an Effective Classroom. (3). Designed to create an awareness of classroom management and evaluation systems which include a variety of evaluation and management tools and formats. D 21 831 0 0829

832. Secondary School Curriculum. (3). Develops the student's ability to describe, analyze and evaluate curriculum models and programs. Particular attention is paid to the social, psychological and philosophical foundations of curriculum as well as to current trends in curriculum design. D 21 832 0 0829

835. The Instructional Process. (3). Focuses on the process of instruction in order to develop skill in systematic instructional planning. Includes instructional theory, systems approach and other recent approaches to instruction. D 21 835 0 0829

837A, B and C. The Teaching of School Subjects. (3). Recent developments in English (A), Social Studies (B), or Science (C): problems, concerns, methods, materials and research. Excellent for teachers who want an extensive review of developments during the past five years. D 21 837 0 0834

850. Seminar in Secondary Education. (3). D 21 850 0 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 exceptionalism for special education majors, administrators, and school psychologists. Prerequisites: ISEP 333 and ISEP 433. D 21 601 0 0811

735M. Introduction to the Gifted. (3). Historical and socio-educational perspectives germane to gifted education, and an overview of the characteristics and learning needs of high aptitude students. Course designed for administrators, teachers, or anyone interested in gifted education. Prerequisite: graduate standing and ISSP 601. D 21 735 0 0811

736. Introduction to the Mentally Retarded. (3). Current research and historical approaches to the education of the mentally retarded and survey of the literature in this field. Prerequisite: ISSP 601. D 21 736 0 0810

740. Introduction to Early Childhood Special Education: Infancy and Preschool. (3). A study of the interpersonal and educational needs of early intervention for handicapped children and their families. Prerequisites: ISEP 728, ISSP 840 (or 601), ISEC 751 or permission of instructor. D 21 740 0 0820

742. Introduction to Learning Disabilities. (3). A study of the incidence, classification, etiology and intellectual, personal, social and developmental characteristics of the learning disabled child. Current research, parental concerns and historical development of the educational approaches to learning and behavioral disorders are examined. Prerequisite: instructor's consent. D 21 742 0 0818

749. Introduction to Behavior Disorders. (3). A study of the incidence, classification, etiology and personal, social and developmental characteristics of the emotionally disturbed and behaviorally disordered child. Current research, parental concerns and development of educational approaches are examined. D 21 749 0 0810

Courses for Graduate Students Only

840. Psychology of Exceptional Children. (3). A study of the conceptual and theoretical formulations, empirical evidence and research concerning behavioral characteristics of exceptional children. D 21 840 0 0668
841. Program Development in Special Education (5). Examination of teaching and learning in classroom organization and management that affect the establishment and operation of programs for exceptional children. Prerequisite: ISSP 601 or 840. D 21 841 0 0810

844. Occupational Aspects in Mental Retardation. (3). Designed to study in-depth occupations and methods employed by teachers of the mentally retarded in secondary schools. Prerequisite: ISSP 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: Mentally Retarded. (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 protected group. Emphasis is on applied teaching methods for the mildly and severely disturbed, formal-informal psycho-educational assessment devices, curriculum strategies, behavior management and prescriptive remediation for academic deficits. Prerequisites: instructor’s consent, ISSP 749 and 888. D 21 847K and L 2 0806

847M. Practicum and Internship in Education: Gifted. (3). Supervised teaching experiences with gifted learners. Applied teaching approaches are taught. The course provides opportunities to apply various theoretical, structural and technological methodologies related to the education of the gifted learner. Prerequisites: ISSP 749, 840. D 21 847M 2 0808

847R, S and T. Practicum I, II and III: Supervized Clinical Experience and Seminar in Early Childhood Special Education. (2). The three practica in early childhood special education are designed to provide opportunities for the student to develop clinical competencies with handicapped infants, young children and their parents under the supervision of trained professionals in the field. Prior to every practicum experience, each student will be asked to complete a Competency Assessment basis for developing individualized professional goals for that particular practicum experience. Students are expected to meet all such competencies to prespecified criteria by the conclusion of their third practicum. Prerequisites for Practicum I: ISSP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601), 891 or permission of the instructor. It is recommended that Practicum I be taken simultaneously with (or soon after) ISSP 891. Prerequisites for Practicum II: ISSP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601), 847R, 891 or permission of instructor. Prerequisites for Practicum III: ISSP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601), 847R, 891 or permission of instructor. D 21 847R, S and T 2 0808

864. Practicum Seminar: Learning Disabilities. (1). A seminar designed to examine trends and issues related to the learning disabled individual, adaptation of materials for specific needs and critical examination of incidents related to the practicum experience. D 21 864 2 0808

885. 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 21 885 2 0808

886. 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 ISSP 847K and L. D 21 886 2 0808

888. Methods for Teaching the Behaviorally Disordered. (3). Emphasis is on the theoretical and practical aspects of prescriptive instructional techniques and materials for the education of the behavior disordered student. Prerequisites: instructor’s consent. D 21 888 0 0811

892. Methods for Teaching the Gifted. (3). Planning for a qualitatively differentiated curriculum to meet the unique needs of the gifted learner is stressed. A variety of suitable program models, including grouping, acceleration, guidance and combinations of these, are explored. Prerequisite: ISSP 602 or instructor’s consent. D 21 892 0 0811

895. Advanced Methods for Teaching the Learning Disabled. (3). Curriculum development specific to the disabled learner. Requirements include mastery of specified competencies (reading instruction, behavior management, etc.) at both the elementary and secondary level. Course may be taken in conjunction with LD Practicum. Prerequisites: ISSP 742 and 888. D 21 895 0 0808

897. Assessment and Analysis of the Exceptional Child: Gifted. (3). An analysis of standardized and informal evaluation techniques including critical evaluation of standardized tests and their appropriateness for special populations, alternative methods of assessment and intervention techniques based on diagnostic profiles. D 21 897 1 0808

898. Methods for Teaching Learning and Behavior Disorders. (3). Mastery of specified competencies in teaching special students including use of data-based instruction, strategies for reading assessment, instructional techniques to improve reading, math and written language skills and strategies for working with other teachers to facilitate mainstreaming of special students. D 21 898 1 0818

899. Advanced Seminar in Gifted Education. (3). D 21 899 1 0808

901. Identification, Screening and Assessment of Infants and Preschool Children: Models, Materials, Procedures and Clinical Problems. (3). This course is a cross-disciplinary and cross-cultural study of the identification, screening and assessment of infants and preschoolers. Prerequisites: ISSP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601), 891, 892 or permission of instructor. Repeatable for a total of six hours. D 21 891 0 0820

902. Methods for Teaching Young Children with Special Needs. (3). This course is a cross-disciplinary and cross-cultural study of the identification, screening and assessment of infants and preschoolers. Prerequisites: ISSP 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601), 891, 892 or permission of instructor. Repeatable for a total of six hours. D 21 892 0 0820

893. Advanced Seminar in Early Intervention: Policy Issues, Research Problems and Future Directions. (3). Topics presented for study include ethical issues associated with biomedically related scientific advance, clinical research needs, and needs legislation, public policy issues, cross-disciplinary and cross-cultural studies, recent developments and future directions and the relationship of early childhood special education to the larger field of special education. D 21 893 0 0820

894. Advanced Topics in Early Childhood Special Education. (1-4). Special topical seminars in early intervention are periodically offered to facilitate opportunities for the indepth study of critical issues or topical research in this rapidly developing field. Prerequisites: ISEC 728, 732; ISEC 761, 762; ISSP 740, 840 (or 601), 847R, 891, 892 or permission of instructor. Repeatable for credit. D 21 894 0 0820

Military Science

Army Reserve Officers' Training Corps (ROTC)

Army ROTC is a program which offers college students the opportunity to graduate as commissioned officers and serve in the U.S. Army, the Army National Guard, or the U.S. Army Reserve. Participation in ROTC enhances a student's education by providing unique leadership and management training along with practical experience. Students are provided with a valuable opportunity to build for the future by enabling them to earn a college degree and an officer's commission at the same time.

ROTC is not a major or minor. Courses are taken along with normal studies, usually at the rate of one ROTC course per semester. The ROTC program consists of the four-year program and the two-year program.

Four-Year Program

The four-year Army ROTC program is divided into two parts called the Basic Course and the Advanced Course.

Basic Course

The Basic Course, designated as Military Science (MS) I and MS II, is designed to provide the student with a general understanding of basic military skills, leadership and management techniques, and the mission and organization of the U.S. Army. The course will focus on the junior officer's role as a leader and manager and provide the student with time management, decision
making, and organization skills. The Basic Course is normally taken during the freshman and sophomore years, but it is open to full-time students anytime during their college career. MS I and MS II students participate in classroom work one class period per week plus a leadership lab which provides hands-on experience in Army skills. The Basic Course also provides the student with a variety of outside social and professional enrichment activities. All necessary course textbooks and other materials are furnished at no cost. No military service obligation is incurred by nonscholarship students enrolled in the Basic Course. Students earn up to eight hours of academic credit and are provided the opportunity to find out what ROTC is all about.

**Advanced Course**

Students who have demonstrated the potential for becoming an effective leader and have the desire to become a commissioned officer in the U.S. Army may enroll in the Advanced Course if they meet the following eligibility requirements. To be eligible for the Advanced Course a student must:

1. satisfy the Basic Course requirements;
2. be of good character;
3. be at least 17 years old but no older than 30 at time of commissioning (25 if on a ROTC scholarship);
4. meet physical standards;
5. be enrolled as a full-time student;
6. have at least two full years of academic work remaining; and
7. be selected by the professor of Military Science.

A student enters the Advanced Course as a MS III and signs a contract agreeing to serve as a commissioned officer once he or she completes the required two years of classes (MS III and MS IV) and attends a 6-week summer camp. The summer camp is normally attended between the MS III and MS IV years. During the Advanced Course, all students receive a $100 tax-free allowance for each school month, plus a travel allowance and approximately $600 while attending the six-week summer camp.

The MS II year emphasizes principles of leadership and the decision-making process. In addition, the MS II student is prepared to attend the ROTC Advanced Camp through advanced instruction in military skills, tactics and physical training.

In the MS IV year, students are placed in various leadership positions forming the chain of command of the cadet corps. MS IVs plan and organize all cadet activities and are involved in instruction of underclassmen. Upon completion of the MS IV year, students are commissioned as second lieutenants and have the option of serving on active duty, or in the Army Reserve or Army National Guard while pursuing civilian careers.

**Two-Year Program**

Although designed basically for transfer students from junior colleges and colleges and universities not offering ROTC, the two-year program enables students who have four semesters of school remaining before qualifying for a degree to enroll in a basic six-week summer camp between their sophomore and junior years. This camp is designed to educate students in the basic military skills they would have acquired during their first two years of the four-year program. Beginning with the junior year, the two-year program students complete the same advanced course as the four-year program students.

**Professional Military Education**

All students seeking an officer's commission must complete at least one undergraduate course from each of the following designated fields of study. Students must take a course in written communication, military history, human behavior, computer literacy and math reasoning, and are encouraged to take a course in national security affairs and management.

**Scholarship Opportunities**

Army ROTC scholarships are offered on a competitive basis for two-, three-, and four-year periods. The scholarship pays tuition; fees; a specified amount for textbooks, supplies, and equipment; and also includes a tax-free allowance of up to $1,000 for every year the scholarship is in effect. Army National Guard scholarships which pay for tuition are also available. Information on ROTC scholarships may be obtained from the Military Science Department.

**Nursing Students**

Students pursuing a degree in nursing can take Army ROTC along with other students and begin their professional careers as an Army Nurse Corps officer. Nursing students in the ROTC Advanced Course attend the Nurses Summer Training Program. This program lasts six weeks and is divided into a two-week military skill and leadership phase and a four-week clinical phase. During the clinical phase, each student is assigned to a major Army hospital and works with an Army nurse who functions as a preceptor. This one-on-one teaching relationship, combined with the hands-on principle of learning by doing, makes this program unique.

**Veterans**

Veterans may apply their military experience as credit toward the Basic Course. If credit is granted by the professor of Military Science, a veteran may omit the MS I and MS II years and enroll in the Advanced Course. Academic alignment is required, however, except in unusual situations.

**Army National Guard and Reserve Students**

Basic Course students who are members of the Army National Guard or the Army Reserve may enroll in the Army ROTC program and be a member of their unit at the same time. Advanced Course students may also serve as a member of a Guard or Reserve unit under the Simultaneous Membership Program. Students in this category serve as officer trainees in their unit and will receive pay at the E-5 pay grade. At the same time, the student will continue to receive the $100 per school month tax-free allowance from ROTC.

**Open Enrollment Policy**

Any full-time student at The Wichita State University may audit courses taught by the Department of Military Science if approved by the registrar and professor of military science. Students enrolling under this category may not receive commissioning credit or the monetary allowance.

**Lower-Division Courses**

113. **Today’s Army. (2). 1R; 2/3AL.** An introduction to the mission and organization of the modern army, customs and traditions, the junior officer’s role as a leader and manager, and the benefits and challenges afforded to officers in the U.S. Army. Prerequisites: full-time student status and departmental consent. D 15 113 5 1801

114. **Learning to Lead. (2). 1R; 1/2AL.** An introduction to leadership roles, styles, traits and management functions as they apply to both civilian and military organizations. The course teaches time management and decision-making skills and discusses the traits of an effective leader. Prerequisite: full-time student status. D 15 114 5 1801

200. **ROTC Basic Camp. (4).** A six-week training period of classes and field work. Subjects include organization of U.S. Army, marksmanship, map reading, tactics and operations. Practical experience in leadership is stressed. Course prepares students for ROTC advanced program. Prerequisite: departmental consent. D 15 200 5 1801

223. **Land Navigation and Tactics. (3). 1R; 1/2AL.** A course designed to provide the student with basic land navigation skills. Subjects covered include how to navigate using a compass, map and terrain association. Fun-
### Upper-Division Courses

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>450. Workshops in Education. (1-4). This course is designed to accommodate</td>
<td>4</td>
<td>full-time student status and departmental consent. D 15 223 5 1801</td>
</tr>
<tr>
<td>452. Special Studies in Education. (1-4). This course is designed for upper-</td>
<td>4</td>
<td>division students with an interest in issues related to counseling, guidance</td>
</tr>
<tr>
<td>455. Family Crucible. (3). An exploration of issues involved in understanding</td>
<td>3</td>
<td>and disciplinary focus utilizing developmental, cultural, and family systems</td>
</tr>
<tr>
<td>465. Studies in Student Services. (1-6). Provides students with training in</td>
<td>6</td>
<td>perspectives. The course will provide opportunities to examine personal</td>
</tr>
<tr>
<td>732. Counseling: Child Abuse and Neglect. (2). The etiology, symptoms and</td>
<td>2</td>
<td>values, experiences and expectations in connection with the personal growth</td>
</tr>
<tr>
<td>750. Workshop in Education. (1-4). D 18 150 2 0826</td>
<td>4</td>
<td>dimensions of family life. Prerequisite: upper-division standing. D 18 455 0 0826</td>
</tr>
<tr>
<td>752. Special Studies in Education. (1-5). The course is designed for students</td>
<td>5</td>
<td>(3). Training for students involved as small-group leaders. Prerequisite:</td>
</tr>
<tr>
<td>756. Guidance Services for the Preschool Child. (3). A study of the social</td>
<td>3</td>
<td>D 18 652 9 0826</td>
</tr>
<tr>
<td>801. Principles and Philosophy of Guidance. (3). The development of a guidance</td>
<td>3</td>
<td>(3). Designed as a supervised experience for students participating as peer</td>
</tr>
<tr>
<td>802. Introduction to Interaction Process. (1). S/U grade only. A laboratory</td>
<td>1</td>
<td>advisers and leaders in developing activities for students entering or assigned</td>
</tr>
<tr>
<td>803. Counseling Theory. (3). A study of selected theories of counseling.</td>
<td>3</td>
<td>to University College. Peer counseling and consulting skills are emphasized.</td>
</tr>
<tr>
<td>805. Educating the Poorly Adjusted Individual. (3). Perceptual approach to</td>
<td>3</td>
<td>Prerequisites: CSP 824. D 18 810 0 0826</td>
</tr>
<tr>
<td>806. Children of Poverty. (3). A perceptual approach to children and youth</td>
<td>3</td>
<td>(2). The selection, use and interpretation of psychological tests and their</td>
</tr>
<tr>
<td>810. Elementary School Counseling. (3). The role of the elementary counselor</td>
<td>3</td>
<td>use in counseling. With emphasis on their selection, use and interpretation.</td>
</tr>
<tr>
<td>815. Professional Standards and Ethics. (1-6). The course involves training</td>
<td>6</td>
<td>Study is made of the basic concepts involved in the selection of tests.</td>
</tr>
<tr>
<td>820. Occupational Information. (2). The classification, evaluation and use of</td>
<td>2</td>
<td>Prerequisites: CSP 801. D 18 820 0 0826</td>
</tr>
<tr>
<td>822. Psychometric Procedures in Counseling. (3). Survey and study of</td>
<td>3</td>
<td>(3). Through simulated counseling situations and extensive examination of</td>
</tr>
<tr>
<td>824. Techniques of Counseling. (3). Through simulated counseling situations</td>
<td>3</td>
<td>counseling case studies, techniques of counseling are examined and practiced.</td>
</tr>
<tr>
<td>825. Group Techniques in Guidance. (2). S/U grade only. Laboratory approach</td>
<td>2</td>
<td>Prerequisites: CSP 803. D 18 824 0 0826</td>
</tr>
<tr>
<td>830. Introduction to Marriage and Family Counseling. (3). A survey course on</td>
<td>3</td>
<td>(1). Designed for graduate students with personal and guidance interests.</td>
</tr>
<tr>
<td>833. Administration of Guidance Services. (3). Administration theory, with</td>
<td>3</td>
<td>Different preselected areas may be emphasized during a semester. Repeatable</td>
</tr>
</tbody>
</table>

### Music Education

See School of Music Section, College of Fine Arts.

### Personnel Services

#### Counseling and School Psychology

<table>
<thead>
<tr>
<th>Lower Division Courses</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>150. Workshops in Education. (1-2). D 18 150 2 0826</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>152. Special Studies in Education. (1-4). This course is designed for undergraduates</td>
<td>4</td>
<td>with an interest in issues related to counseling, guidance and student</td>
</tr>
<tr>
<td>156. Principles and Philosophy of Guidance. (3). The development of a guidance</td>
<td>3</td>
<td>development. Different preselected areas may be emphasized during a semester</td>
</tr>
<tr>
<td>1801. Principles and Philosophy of Guidance. (3). The development of a guidance</td>
<td>3</td>
<td>with adviser's consent. D 18 452 2 0826</td>
</tr>
<tr>
<td>1802. Introduction to Interaction Process. (1). S/U grade only. A laboratory approach</td>
<td>1</td>
<td>to an examination of the counselor's role in the counseling process. The</td>
</tr>
<tr>
<td>1803. Counseling Theory. (3). A study of selected theories of counseling. Prerequisite:</td>
<td>3</td>
<td>course is designed to help the prospective counselor increase personal</td>
</tr>
<tr>
<td>1805. Educating the Poorly Adjusted Individual. (3). Perceptual approach to the</td>
<td>3</td>
<td>understanding of self as a variable in the counseling process. Prerequisites:</td>
</tr>
<tr>
<td>1806. Children of Poverty. (3). A perceptual approach to children and youth whose</td>
<td>3</td>
<td>CSP majors and instructor's consent. To be taken concurrently with CSP 801.</td>
</tr>
<tr>
<td>1810. Elementary School Counseling. (3). The role of the elementary counselor in</td>
<td>3</td>
<td>This course may not be taken concurrently with CSP 825. D 18 802 2 0826</td>
</tr>
<tr>
<td>1815. Professional Standards and Ethics. (1-6). The course involves training</td>
<td>6</td>
<td>(2). The selection, use and interpretation of psychological tests and their</td>
</tr>
<tr>
<td>1820. Occupational Information. (2). The classification, evaluation and use of</td>
<td>2</td>
<td>use in counseling. With emphasis on their selection, use and interpretation.</td>
</tr>
<tr>
<td>1822. Psychometric Procedures in Counseling. (3). Survey and study of standardized</td>
<td>3</td>
<td>Study is made of the basic concepts involved in the selection of tests.</td>
</tr>
<tr>
<td>1824. Techniques of Counseling. (3). Through simulated counseling situations and</td>
<td>3</td>
<td>Prerequisites: CSP 801. D 18 820 0 0826</td>
</tr>
<tr>
<td>1825. Group Techniques in Guidance. (2). S/U grade only. Laboratory approach to the</td>
<td>2</td>
<td>(1). Designed for students with personal and guidance interests. Different</td>
</tr>
<tr>
<td>1830. Introduction to Marriage and Family Counseling. (3). A survey course on</td>
<td>3</td>
<td>preselected areas may be emphasized during a semester. Repeatable with</td>
</tr>
<tr>
<td>1833. Administration of Guidance Services. (3). Administration theory, with emphasis</td>
<td>3</td>
<td>adviser's consent. D 18 752 2 0826</td>
</tr>
<tr>
<td>1835. Group Techniques in Guidance. (2). S/U grade only. Laboratory approach to the</td>
<td>2</td>
<td>problem of administration of guidance services. Prerequisite: 15 hours of CSP</td>
</tr>
<tr>
<td>1880. Introduction to Interaction Process. (1). S/U grade only. A laboratory approach</td>
<td>1</td>
<td>courses. D 18 833 0 0826</td>
</tr>
</tbody>
</table>
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. Behavioral and clinical theories are considered in a lecture-discussion format, which includes some case simulation activities. Concurrent enrollment in CSP 870 is recommended. Prerequisites: CSP 823 or concurrent enrollment and instructor's consent. D 18 855 0 0825

856. Practicum in Individual Counseling. (3). Supervised practice in individual counseling. Course requirements include at least 80 hours applied experience. Repeatable for credit. Prerequisites: CSP 824, admission to the CSP program and instructor's consent. D 18 856 2 0826

857. Professional and Ethical Issues. (2). Study of major ethical legal and professional issues in counseling and school psychology. Prerequisites: 15 hours in CSP sequence. D 18 857 9 0826

858. Diagnostic Testing. (2). Use of individual tests, rating procedures and behavioral techniques for the appraisal of perceptual 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. Concurrent enrollment in CSP 870 is recommended. Prerequisites: CSP 823 and instructor's consent. D 18 858 2 0826

862. Presentation of Research. (1-2). A project written in the manuscript form. Repeatable for a maximum of two hours of credit. Prerequisite: IS 860. D 18 862 4 0826

866. Practicum in Guidance Services. (2-3). Supervised practice in administration, test interpretation, group counseling and other activities of the guidance department. Prerequisites: CSP 823 and instructor's consent. D 18 866 2 0826

867. Practicum in Group, Guidance and Counseling Methods. (3). Supervised practice in group guidance and counseling. Repeatable for three hours of additional credit. The second practicum must be in a different area or have a different focus from that of the first. Prerequisites: CSP 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. Report writing and case consultation also are considered in terms of the information needs of the client and referral agent. Repeatable to a maximum of six hours of credit. Prerequisites: CSP 823 and concurrent enrollment in an appropriate lecture-discussion course. D 18 870 2 0825

875-876. Master's Thesis. (2-2). D 18 875 4 0826; D 18 876 4 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 four hours. Prerequisite: CSP 801 or concurrent enrollment. D 18 881 9 0826

900. Special Problems in Guidance. (1-4). Directed research and research under the supervision of a graduate faculty member. Prerequisites: 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 abnormal psychology. 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 and implementing experience designs for individuals or groups experiencing dysfunctional situations. Individual and organizational effectiveness assessment skills are stressed. D 18 915 0 0826

928. Seminar: Selected Topics. (2). Intensive study of current issues, techniques, research and application of the selected topic. Repeatable for different topics for a maximum of eight hours. Prerequisite: 15 hours of related graduate course work. D 18 928 9 0826

929. Seminar: Postsecondary Student Services. (2). Intensive study of issues and research in topics related to postsecondary student services. Prerequisites: CSP 823 and instructor's consent. D 18 929 2 0826

930. Marriage and Family Counseling II. (3). An advanced course on marriage and family counseling, including theory, techniques and research in the field. Prerequisite: CSP 803, CSP 830, 33 graduate hours or permission of instructor. D 18 930 0 0826

934. Personality Assessment. (2). Focus is on theory and interpretation of instruments representing three major approaches to personality assessment: projective techniques, behavioral techniques and personality inventories. Alternative personality assessment approaches and emphasis on research and clinical theory are considered in a lecture-discussion format, which includes some case simulation activities. Prerequisites: CSP 823, post-master's standing or last six hours of master's program. D 18 934 0 0826

946. Practicum in School Psychology. (3 or 6). Supervised practice in providing school psychological services to children in school, clinical or community agency settings. Requires at least 300 hours applied experience per three hours of credit. Repeatable for a maximum of six hours. Prerequisite: departmental consent. D 18 946 2 0826

947. Internship: Internal or External. (6-8). 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 intervention experiences in a variety of settings designed to develop expertise in interpersonal consulting: 24 units. D 18 947 2 0826

948. Practicum in Marriage and Family Counseling. (3). Prerequisite: CSP 930, graduate-student status or departmental consent. D 18 948 2 0826

970. Assessment Practicum. (2). Supervised experience in the administration, scoring and interpretation of individual assessment techniques. Emphasis on integrating assessment information from several sources. Report writing and case consultation also are considered in terms of the information needs of the client and referral agent. Repeatable for a maximum of six hours. Prerequisites: CSP 823 and concurrent enrollment in an appropriate lecture-discussion assessment course at the post-master's level. D 18 970 2 0826

977. Internship in School Psychology. (2). Supervised experience as a school psychologist in a school or agency setting. Requires at least 500 hours of applied experience. Repeatable for a maximum of four hours. Prerequisites: CSP 846 and departmental consent. D 18 977 2 0826

990. Special Problems in Counseling and School Psychology. (1-4). Directed problems in research for specialist degree students, under supervision of a graduate instructor. Prerequisites: ISEP 801 and instructor's consent. D 18 990 4 0826

Educational Administration and Supervision

Courses for Graduate/Undergraduate Credit

750. Experienced Administrator's Workshop. (1-2). Offers a variety of administrative topics. D 18 750 2 0827

752. Special Studies in Educational Administration and Supervision. (1-3). Group study, the purpose of which is to provide an area of specialization in educational administration and supervision. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 18 752 0 0827

Courses for Graduate Students Only

801. Educational Administration Theory. (3). An examination of the major theories of administration, and application to specific problems. Emphasis is on an overview of the administration of the school district, especially problems involving the community and staff. Includes a data-gathering for self-evaluation of supervisory potential. Open to College of Education graduate majors. D 18 801 0 0827

804. Supervision and the Improvement of Instruction. (3). The application of curricular, psychological and administrative theories to supervision of the problems of improving classroom instruction and teaching methods. D 16 804 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 role expectations of building principals at the elementary, middle and high school levels. Specific work is designed for each student's projected work level. Prerequisites: prior completion of 27 hours of EAS course work and departmental consent. D 18 810 0 0827

814. Instructional Management: Hunter Model. (3). Development of the skills required to assess and assist teachers in improving classroom instruction. A review of effective teaching practices using the model...
developed by Madeline Hunter and associates. Emphasis is on upgrading supervisory proficiency through the direct observation of teaching episodes using assessment, analysis and reflection. Supervisory conferencing and coaching skills also are stressed to improve teacher time utilization, pupil motivation and pupil productivity. Prerequisite: EAS 804 or instructor's consent. D 16 814 0 0828

826. Curriculum Management. (3). A study of curriculum philosophies, theories and developmental processes. Included are the following topics: examination of recent programs and proposals, curriculum development at the building and school system levels and techniques of program evaluation. Prerequisite: EAS 804. 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, nongraduateness, 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 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. Prerequisites: EAS 801, 804 and 842. 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

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

853. School Business Management. (3). School budgeting processes, accounting, risk management, purchasing and data management procedures. Management of custodian, maintenance, food and transportation services. Prerequisite: EAS 801 and 804 or instructor's consent. D 16 853 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 advisor's consent. D 16 860 9 0824

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

872. Conflict Management. (3). This course is designed to study the effect of language, attitudes, beliefs on interpersonal communication and relationships which lead to the typical sources of organizational conflict and personality conflict. Approaches to interper­sonal and organizational conflict resolution will be emphasized. D 16 872 0 0827

875-876. Master's Thesis. (2-2). D 16 875 4 0827; D 16 876 4 0827

878. Strategies for School Improvement. (3). An examination of organizational/instruc­tional characteristics of schools as determinants of their effectiveness (i.e., pupil academic achievement). Various school improvement models are considered, including programs designed specifically for elementary and secondary schools. Research studies of institutional condition of areas of study is related to school effectiveness, as well as related teacher effectiveness variables. Prerequisites: EAS 801 and 804. D 16 878 0 0827

884. School Plant Design and Operation. (3). Planning new educational facilities based upon educational programs. The evaluation of existing schools, remodeling and operation and maintenance of present school plant are included. Prerequisite: master's degree or instructor's consent. D 16 884 0 0827

888. Data Management for School Administrators. (3). An advanced course for microcomputer literate students in developing effective usage of the data processing function as a tool for the analysis of management needs. Hands-on experience in machine language programming, word processing, spreadsheet management, word processing and spreadsheet programs, using Apple computers. D 16 888 0 0827

890. Special Problems in Administration. (1-4). Directed problems in research for master's students primarily under supervision of a graduate instructor. Prerequisite: instructor's consent. D 16 890 3 0827

891. Preserve Building Administrator Practicum. (3). The practicum is designed as a preservice experience for persons seeking building-level administrator certification in Kansas. Emphasis is on the acquisition of knowledge and skill in administrative prac­tices and procedures through a building-level field experience. The student must file an application for the practicum, approved by the supervising EAS faculty member, the cooperating building administrator and the school district coordinator. Prerequisites: EAS 810 or equivalency or concurrent enrollment. D 16 891 0 0827

904. Clinical Supervision for Administrators/Supervisors. (3). An examination of the process of clinical supervision and their application by supervisors in the supervisory process. Emphasis is on improving learning experiences for students by facilitating improved or alternative instructional solutions to student, classroom and program learning problems. Prerequisite: EAS 804. D 16 804 0 0827

909. Planning in Educational Administration. (3). Seeking out, analyzing and making appropriate use of information in effective school planning. Examines systems analysis, management information systems in school settings and strategies for long- and short-range planning. Prerequisites: EAS 801 and 804. D 16 809 0 0827

946, 947, 948, 949. The Internship. (2, 3, 4, 5). Administrative assignment in educational institutions. S/U grading only. Prerequisites: nine semester hours of post-master's gradu­ate courses in educational administration and supervision and 3.100 graduate grade point average. Arranged on an individual basis. D 16 946 2 0827; D 16 947 2 0827; D 16 948 2 0827; D 16 949 2 0827

953. Financial Support of Education. (3). Coordination of the financial support of edu­cation at local, state and national levels. Emphasis is on methods of taxation, budget preparation and efficient expenditures. Prerequisites: EAS 801 and 804 or instructor's consent. D 16 953 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 direction 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. Prerequi­tise: completion of master's degree. D 16 955 2 0827

960. Seminar in the Process of Administration. (1-3). Concurrent enrollment in the internship is required. 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 involved in their first administrative position and employed in their first administrative position and seeking recertification in Kansas. The course is designed for persons who have been employed in their first position and seeking recertification in Kansas. The course of study is individually designed by an EAS faculty member with the student and his/her school district supervisor. The course addresses the needs of the student and of the district. The thrust is to assist the student to extend basic skills relevant to a particular administrative assignment. The student must register for three hours of credit in EAS 991 to meet recertification requirements. S/U grad­ing only. Prerequisites: completion of master's degree and departmental consent. D 16 991 2 0827
Physical Education, Health and Recreation

Physical Education

Physical education majors may select the elementary, secondary or field option specialization. They may select both the elementary and secondary specializations by completing the required hours in both specializations and by student teaching in both areas. Students majoring in physical education must meet all College of Education entrance requirements.

Core requirements. Each major student in the elementary or secondary specialization must complete 36 hours in the physical education core, which includes PE 201A, 201B, 201C, 201D, 103, 107, 111, 117, 229, 270, 328, 360, 530, 533 and 544.

Elementary Specialization. All majors in this specialization must complete the core requirements listed above. Fifteen additional hours must be completed by taking the following courses: PE 200, 325, 326, 327 and 515.

Secondary Specialization. All majors in this specialization must complete the core requirements listed above. Fifteen additional hours must be completed by taking the following courses: PE 206, 254, 311, 312, 331 and two hours within the area of rhythmic activities (PE 515, aerobics, ballroom dance or folk dance of many countries). Individuals in this program must complete a grade point average of 2.500 for all hours taken and in the major field before being admitted to the student teaching block.

Field Option Specialization. Candidates may select one of the approved options: fitness or sports business. Individuals in this program must complete a grade point average of 2.500 for all hours taken and in their major area before being admitted to a field option internship.

Fitness: Required courses are PE 105, 106, 107, 111, 115, 117, 229, 270, 328, 331, 360, 481, 530, 533, 544, 547, HS 331Q, plus at least 29 hours of approved electives.

Sports Business, Required courses are PE 111, 117, 210, 229, 270, 280G, 328, 360, 481, 530, 533, 544 and 547; plus at least 31 hours of approved electives.

Areas of Certification

State certification—Health. The courses listed must be included in any program which provides state certification endorsement in health: PE 115, Personal and Community Health (3); PE 117, First Aid (2); PE 210, Safety Education (3); PE 229, Applied Human Anatomy (3); PE 280G, Fitness for Life (2); PE 500, Health Education I (2); PE 254, Applied Health I (2); PE 530, Physiology of Exercise (3); PE 752, Special Studies in Health, Physical Education and Recreation (1-3); Biol. 120Q, Introduction to Microbiology (4); Chem. 111Q, General Chemistry (5); HS 331Q, Principals of Dietetics and Nutrition (3); Psy. 111Q, General Psychology (3); Soc. 111Q, Introduction to Sociology (3); ISSE 310, Methods in Physical Education (3); ISSE 470, Student Teaching—Physical Education (7).

The Wichita State University certification—Coaching: The courses listed must be included in any program which provides Wichita State certification in coaching: PE 152, Special Studies in Health, Physical Education and Recreation—Officiating Techniques (3); PE 331, Athletic Injuries and Training Techniques (2); PE 336, Theory and Organization of Basketball (2); PE 337, Theory and Organization of Track and Field (2); PE 530, Physiology of Exercise (3); PE 770, Psychology of Sport (3). Men must add PE 152, Special Studies in Health, Physical Education and Recreation—Theory and Organization of Football (2).

All students must have at least three hours from the following electives—PE 206, Aquatics (2); PE 254, Gymnastics (3); PE 311, Methods and Techniques I (3); PE 312, Methods and Techniques II (3).

All students also must have at least four hours from the following: PE 201A, PE 201B, PE 201C, PE 201D, Introduction to Activities (2 hours each).

Service Program

Physical education activity courses carry one hour of credit. They fall into nine areas.

Lower-Division Courses

Physical Education Activity Courses.

101. Team Activities. (1). D 13 101 5 0835

102. Individual Activities. (1). D 13 102 5 0835

103. Combatives. (1). D 13 103 5 0835

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). Introductory course to study the multiple dimensions of personal health and the outside forces that shape health, lifestyle, disease, aging, death and dying. Responsibilities for one's health is fostered through the use of wellness inventories, lifestyle assessments, nutritional analyses and goal-setting. 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. (1-3). D 13 150 2 0835

152. Special Studies in Health, Physical Education and Recreation. (1-3). Group study activities in preselected areas of health, physical education or recreation. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 13 152 0 0835

200. Observation in Physical Education. (1). A course that provides students with observation experiences in selected elementary schools. D 13 200 1 0835

201A. Introduction to Activities. (2). This course introduces the major student to the basic skills of badminton, tennis, flag football and fencing. D 13 201A 5 0835

201B. Introduction to Activities. (2). This course introduces the major student to the basic skills of golf, bowling and combatives. D 13 201B 5 0835

201C. Introduction to Activities. (2). This course introduces the major student to the basic skills of softball, volleyball, handball, racquetball and table tennis. D 13 201C 5 0835

201D. Introduction to Activities. (2). This course introduces the major student to the basic skills of soccer, basketball and fitness activities. D 13 201D 5 0835

201E. Introduction to Physical Activities. (2). An introduction to activities appropriate for fitness/wellness programs. Prerequisite: departmental major or departmental consent. D 13 201E 5 0835

206. Aquatics. (2). 1R; 2L: An introduction to aquatic techniques and an orientation to all levels of aquatics that enable individuals to manage themselves adequately and satisfactorily in water. Prerequisite: PE 107A or departmental consent. D 13 206 0 0835

210. Safety Education. (3). A general survey of the field of safety. Emphasis is on the philosophical implications, psychological 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

229. Applied Human Anatomy. (3). 3R; 1L. A study of the structure and function of the skeletal and muscular systems of the human body, with direct application to body movements in physical activities. D 13 229 1 0835

254. Gymnastics. (3). Principles of body mechanics with application to gymnastics and exercise including free exercise and apparatus. Prerequisite: PE 105 or departmental consent. D 13 254 2 0835

270. Motor Learning. (3). The introduction and examination of the physiological and psychological factors that affect the acquisition of motor skills. D 13 270 1 0835

280G. Fitness for Life. (2). 1R; 2L. The student learns how to perform exercises to enhance understanding of exercise, human body, with direct application to body movements in physical activities. 0 13 229 1 0835

327. Kinesiology and Biomechanics. (3). The understanding of the kinesthetics and mechanics of human motion, with respect to performance of sport activities. D 13 328 0 0835

331. Athletic Injuries and Training Techniques. (2). 2R; 1L. Injuries common to athletic activities, emphasizing prevention, first aid, treatment and care as prescribed by the team physician. D 13 331 1 0835

336. Theory and Organization of Basketball. (2). The theory, organization, responsibilities and techniques of coaching basketball. D 13 336 0 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

338. Theory and Organization of Baseball. (2). The theory, organization, responsibilities and techniques of coaching baseball. D 13 338 0 0835

360. Adaptive Physical Education. (3). Designed to assist the students in developing the necessary skills for the implementation of enjoyable physical activity into the lives of persons impaired, disabled or handicapped. In addition to classroom work, the student has a minimum of two weeks per term in the observation or physical activity with persons impaired, disabled or handicapped. Prerequisite: PE 229 or departmental consent. D 13 360 0 0818

430. Advanced Athletic Training Techniques I. (3). A study of professional relations and sports medicine. Prerequisites: PE 210, PE 211, 2.500 overall GPA, 2.500 major GPA. D 13 430 2 0835

431. Advanced Athletic Training Techniques II. (3). A course emphasizing athletic injuries of the head, neck and trunk. Special problems including development and administration of rehabilitation programs also are studied. Development of advanced athletic training skills. D 13 431 0 0835

432. Athletic Training Lab I, II, III, IV. (1L). 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

440. Concepts in the Prescription of Exercise. (3). An introduction of techniques appropriate for screening, health appraisal and fitness assessment as required for prescribing exercise programs for persons without disease or with controlled disease, and progression for participants experience in a supervised setting. Prerequisite: PE 530 or equivalent. D 13 440 1 0835

470. Fitness Practicum. (3). Application of theory to practice by assisting in campus fitness classes and the Human Performance Lab a minimum of 15 hours per week. Not to exceed four credits total of 111, 211F, 440, 530; a 2.500 GPA or departmental consent. D 13 470 2 0835

481. Cooperative Education. (1-8). A course designed to allow students to participate in the Cooperative Education program. Offered C/N/NC only. Prerequisite: PE-R 112. D 13 481 2 0835

Courses for Graduate/Undergraduate Credit

500. Health Education. (2-3). Health problems and organization of materials for health instruction. Individual projects are required for graduate students. D 13 500 2 0837

502. Applied Health I. (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

515. Rhythmic Activities in the Elementary School. (2). This course is designed to teach methodology and curricular content of rhythmic activities appropriate for elementary school children. D 13 515 2 0835

530. Physiology of Exercise. (3). 3R; 1L. To provide the student with a working knowledge of human physiology as it relates to exercise. D 13 530 1 0835

533. Measurement and Evaluation in Physical Education. (3). A study of the methods, processes utilized in the total evaluation of physical education programs including statistical procedures, evaluating students, teaching and (4) a survey of measurement tools. D 13 533 0 0835

544. Organization and Administration of Physical Education Programs. (3). The organizational and administrative problems of the professional house and the management of the professional program. D 13 544 1 0835

547. Field Option Internship. (8). Culminating activity for students in fitness, sports business, or athletic training. Students spend the equivalent of full-time employment in the appropriate agency for one full semester. Prerequisites: senior standing and departmental consent. D 13 547 2 0835

590. Independent Study. (1-3). Prerequisite: departmental consent. D 13 590 0 0835

750. Workshop in Education. (1-4). D 13 750 2 0835

752. Special Studies in Health, Physical Education, and Recreation. (1-3). Group study in a preselected area of health, physical education or recreation. Repeatable for credit with departmental consent. Prerequisite: departmental consent. D 13 752 0 0835

770. Psychology of Sport. (3). An in-depth analysis of the psychology of motor learning and its implications for the teacher-coach. D 13 770 0 0835

781. Cooperative Education Field Study. (1-4). The goal of this course is to provide the graduate student with a field placement which integrates theory with a planned supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with appropriate graduate faculty. The plan of study for a graduate degree-bound student must be filed before approval of enrollment for cooperative education graduate credit. May be repeatable for credit with a limit of eight hours counting toward the graduate degree. Offered C/N/NC only. D 13 781 2 0835

Courses for Graduate Students Only

860. Recent Literature in Health, Physical Education and Recreation. (3). Survey and critical analysis of research and other pertinent materials in the field. D 13 860 0 0835

901. Seminar in Sports Administration. (3). This course is designed to provide the student with a comprehensive overview of problems relating to sports administration...
programs. A sample of topics covered follows: public relations, promotion, personnel management, finance, accounting, contest management, and travel. D 13 601 9 0837

810. Adapted Physical Education. (3). Philosophy, principles and methods of adapting physical education and recreational activities to the needs of the handicapped and the exceptional individual. Laboratory experience is provided. Prerequisite: PE-R 112. 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 13 815 1 0835

815. Fitness Assessment and Exercise Prescription. (3). Introduces techniques appropriate for screening, health appraisal and fitness assessment as required for prescribing exercise programs for individuals without disease or with controlled disease. Prerequisites: PE 530 or equivalent and graduate standing. D 13 815 1 0835

830. Advanced Physiology of Exercise. (3). In-depth study into the physiological basis of exercise. Includes energy metabolism, respiratory dynamics, cardiovascular function and regulation during rest, submaximal and exhaustive physical activity. Special emphasis is given to immediate and long-term adaptation to exercise and training. Prerequisite: PE 530. D 13 830 1 0835

847. Internship. (6-12). Internship in selected areas of specialization in exercise science or sports administration. Prerequisite: departmental consent. D 13 847 2 0835

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 non-laboratory studies and (4) the research report. D 13 860 0 0835

875. Thesis. (2). Prerequisites: ISEP 704 and PE 860. D 13 875 4 0835

876. Thesis. (2). Prerequisites: ISEP 704 and PE 860. D 13 876 4 0835

880. Analysis of Motor Skills. (3). Movement and sport skills analyzed in terms of mechanical principles by means of films and experimentation. D 13 890 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

126. Introduction to Therapeutic Recreation. (3). Introduces students to the field of therapeutic recreation. Content areas include history, philosophy, perspectives and concepts, characteristics of populations, types and locations of services and roles and functions of therapeutic recreation professionals. Prerequisite: PE-R 112. D 13 126 0 0835

226. Program Design and Leadership Methods. (3). Introduces the concept of program leadership and recreation planning. Provides basic skills in program development and supervision as a foundation for future recreation skills and professional courses. Prerequisite: PE-R 112 and 126. D 13 226 0 0835

227. Recreation for the Aged. (3). Characteristics of the aged; role of therapeutic recreation with the aged in institutional and community settings. Prerequisite: PE-R 112. D 13 227 0 0835

Upper-Division Courses

302. Recreation for Special Populations. (3). Designed to increase sensitivity to recreational needs of handicapped or other special groups. Cultural and personal attitudes will be explored. Physiological, psychological and social characteristics are discussed. Implications for providing recreation services are emphasized (including leadership, supervision and program design). Prerequisites: PE-R 112, 126, 226, 481(1). D 13 302 0 0835

426. Administration of Recreation and Leisure Services. (3). A study of administrative procedures for park and recreation departments; organization, finance, personnel, facilities, public relations and evaluation. Prerequisites: all recreation courses. D 13 426 2 0835

427. Internship in Recreation. (8). Students are assigned to approved field experience agencies as supervisory personnel for a minimum of 40 hours per week for a 16-week session. Both the agency and the University provide guidance and/or supervision. Prerequisite: PE-R 426. D 13 427 2 0835

481. Cooperative Education. (1-8). A course designed to allow students to participate in the Cooperative Education program. Offered only. Prerequisite: PE-R 112. D 13 481 2 0835

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of lab.
College of Engineering

William J. Wilhelm, PhD, Dean
Modern technological developments in engineering have brought about considerable change in the College of Engineering’s curriculum at The Wichita State University. The curriculum provides a vigorous, challenging experience through a broad spectrum of fundamental technical knowledge as well as courses in humanities, social sciences, communications, mathematics and physical sciences. This balance in the curriculum prepares students for professional positions in the scientific-industrial community after the bachelor's degree or allows them to continue in graduate studies for a more active participation in research and advanced study.

The programs in engineering are offered in daytime and evening classes, and the courses are the same whether they are taught in the day or at night. The undergraduate programs in aerospace, electrical, industrial and mechanical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Degrees Offered

Undergraduate
The College of Engineering is organized into four degree-granting departments: aerospace, electrical, industrial and mechanical. Undergraduate programs in these departments lead to the Bachelor of Science in each of these areas. The college cooperates with Kansas Newman College in a dual degree program in electrical engineering and mathematics. Inquiries regarding the program should be addressed to the chair of the electrical engineering department.

Graduate
A Master of Science (MS) is offered in aerospace, electrical and mechanical engineering, and a Master of Science in Engineering Management Science (MSEMS) is offered by the industrial engineering department. A Doctor of Philosophy (PhD) is offered by each of the four departments of engineering. Typical fields of specialization include analytical and computational fluid mechanics, applied statistical methods, avionics, biomechanics, communications, computers, control systems, engineering management science, engineering materials, electromagnetics, ergonomics/rehabilitation, failure analysis, heat transfer, information systems, manufacturing, mechanical design, production processes, productivity enhancement, propulsion, signal processing, structural dynamics, structures, human factors and thermodynamics. See The Wichita State University Graduate Bulletin for more information about the graduate program.

Policies

Admission
Students requesting a transfer to the College of Engineering must satisfy the following admission requirements:

1. An overall 2.000 grade point average and a WSU 2.000 grade point average.
2. Completion of 24 semester credit hours of college-level work.
3. Declaration of a specific engineering major.
4. Completion of each of the following courses with a grade of C or better: (a) English 101, English 102 and Communication 111 or 112; (b) Math 242Q or its equivalent; and (c) Chemistry 111Q or Physics 313Q or their equivalents.

Engineering students who have not had high school physics are permitted to register for Phys. 313Q if the mathematics prerequisite has been fulfilled. Since most students in Phys. 313Q have had some preparatory physics, students without this background should plan for extra study time in this course. Engineering students who have not had high school physics are permitted to register for Phys. 213Q. These students are then required to take Phys. 314Q when they have fulfilled prerequisites for this course, which are: Math. 243 with a grade of C or better and Phys. 213Q with consent of the physics department.

Probation
Students are placed on academic probation if one or more of the following grade point averages is less than 2.000 and if they have attempted at least 12 hours in that grade point average at The Wichita State University: (1) WSU grade point average and (2) engineering major grade point average. Attempted hours are defined as all hours appearing on the transcript with a grade of A, B, C, D, F, W, Cr, NCR, I, S or U. Academic probation is not removed until all three grade point averages are at least 2.000.

Students on academic probation may not enroll for more than 12 semester hours in a 16-week term, six semester hours in an eight-week term or three hours in a four-week term. Exceptions to these limitations may be made on the recommendation of the student's department adviser with the approval of the student's department chairperson.

Academic Dismissal
Students are subject to academic dismissal from the College of Engineering when they are on academic probation because of their WSU grade point average and/or engineering major grade point average and they fail to receive a 2.000 grade point average in the next 12 hours attempted in the affected grade point average(s) after being placed on academic probation.

Other Policies
All students now must have all three communication courses to transfer from University College.

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.

Students enrolled in the College of Engineering may not enroll in more than 20 semester hours of work per semester during the academic year. Summer Session enrollments are limited to a maximum of five hours for each four-week session or ten hours during the eight-week session. Students who have completed at least 24 hours at WSU with a WSU grade point average of 3.000 or higher may petition their department chairperson for permission to enroll in excess hours.

Students who are employed full or part time should, in consultation with their academic adviser, reduce their enrollment to a level appropriate to their work load.

In order to insure an equitable distribution of class spaces and to aid each student’s timely progress toward a degree, a student who drops a course taught by the College of Engineering any time after the first day of classes will not be permitted to preregister for the same course during the semester in which the drop occurs or during the next regular registration period. During the late registration period, class spaces will only be issued as available with departmental consent. A student may petition the chairperson of the engineering department where the course is taught for an exception to this rule.
Only students admitted to the College of Engineering or the Graduate School will be allowed to enroll in engineering courses at the 300 level or above, unless the course is designated a general studies course by the University. Because there are legitimate reasons for qualified nonengineering students to enroll in an engineering course at the 300 level or above, the chairperson of the department offering the course will consider petitions for exceptions to the preceding statement.

Students must file an application for degree card in the engineering dean's office two semesters preceding their final semester.

Graduation Requirements

University Requirements

For new freshmen entering the University, requirements for the College of Engineering are:

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic skills</td>
<td>12</td>
</tr>
<tr>
<td>Humanities and fine</td>
<td>9</td>
</tr>
<tr>
<td>Social and behavioral</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics and</td>
<td></td>
</tr>
<tr>
<td>natural sciences</td>
<td></td>
</tr>
<tr>
<td>Elective distribution</td>
<td></td>
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<tr>
<td>courses</td>
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</tbody>
</table>

To qualify for graduation, all engineering students must complete each of the following courses with a grade of C or better: English 101, English 102, Communication 111 or 112.

A minimum of 17 hours of humanities and fine arts and social and behavioral sciences is required by the Engineering Accrediting Board. In addition, at least two courses are required in one of the departments in humanities and fine arts or social and behavioral sciences. The two-course sequence must include at least one course numbered 200 and above.

At least nine hours of general studies courses must be taken to satisfy University requirements.

For a complete explanation of the General Education Program, see the Academic Information section of the Catalog.

General Engineering Requirements

All engineering students follow the same general curriculum for the first two years.

For administrative purposes, students are requested to choose a departmental curriculum in which to study, but they may change to another curriculum during this period without losing credit toward graduation. All engineering programs are designed to meet ABET accreditation criteria and must include:

1. The equivalent of approximately 2½ years of study in the area of mathematics, science, and engineering. The course work should include at least one year of mathematics beyond trigonometry and basic sciences, one year of engineering sciences and one-half year of engineering design.

2. The equivalent of one-half year as the minimum content in the area of 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 and ROTC studies do not fulfill this objective. Likewise, skills, theory and technical courses in fields such as musicology, linguistics and communication do not fulfill the humanities/social science objective. If there are questions regarding the selection of specific courses, contact the engineering records office for assistance and interpretation.

Each of the engineering curricula consists of three parts: (1) the general education requirements of the University; (2) an engineering core program and (3) specialized departmental courses.

To satisfy the general education requirements of the University, the student must complete courses in the following two divisions: (1) Division A, Humanities and Fine Arts and (2) Division B, Social and Behavioral Sciences. For a more detailed description of general education requirements, see the Academic Information-General Education Program section of the Catalog.

Every engineering student is required to complete a total of 13 hours of courses from the following engineering core courses. Some of these courses are required as prerequisites for the departmental offerings; the remainder of courses should be selected in consultation with a faculty adviser.

Engineering Core (13 Hours Required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IE 355, Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>AE 323, Engineering Mechanics:</td>
<td></td>
</tr>
<tr>
<td>Statics</td>
<td>3</td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>ME 398, Thermodynamics</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition to the engineering core requirements, students must complete:

1. A minimum of 33-34 hours of engineering science, depending upon curriculum.
2. A minimum of 17 hours of design, synthesis or systems engineering.
3. A minimum of 24 hours of engineering courses taken outside their major department.
4. 26 hours of University requirements as described earlier.
5. A minimum of 17 hours of mathematics and 17 hours of natural sciences.
6. A minimum of 17 hours of humanities and social sciences.
7. Three to four hours of a natural science elective chosen from the following list in consultation with the departmental adviser: Biol. 203Q, 370Q, 509G; Chem. 112Q, 546; Geol. 111Q, 302Q, 310, 300Q; Phys. 551, 555, 621, 714.

The recommended sequence of courses for engineering students in all departments is outlined later in this section. Each sequence has been planned so that students can complete the program in the minimum time and can satisfy all University course requirements and prerequisites for engineering students. Students should discuss any desired deviation from this sequence with an engineering faculty adviser.

Cooperative Education Program

The College of Engineering offers a cooperative education program in conjunction with the University Cooperative Education Program described in this Catalog.

The co-op plan is a voluntary program in which the student alternates paid professional work periods with classroom periods during the junior and senior years. The two most typical plans are illustrated in the following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Sems</td>
<td>F</td>
<td>S</td>
<td>Su</td>
</tr>
<tr>
<td>Plan A</td>
<td>W</td>
<td>C</td>
<td>W</td>
</tr>
<tr>
<td>Plan B</td>
<td>C</td>
<td>W</td>
<td>C</td>
</tr>
</tbody>
</table>

C indicates in college; W indicates at work.

These plans make it possible for each industrial position to be filled by two students, one from Plan A and one from Plan B. Other plans can be developed in cooperation with the coordinator.

To be eligible for the co-op program, a student must demonstrate by academic performance during the freshman year the potential to complete the degree program satisfactorily. Generally this means the earning of a grade point average of 2.500 or higher. Also the student's character and personality must be acceptable to the cooperating employer. Transfer students with the above qualifications should contact the cooperative education coordinator at the beginning of their first semester at WSU. To
continue in the program, a student must maintain a satisfactory academic standing.

Students interested in participating in the program should contact the College of Engineering co-op coordinator who will provide the necessary application information. Upon acceptance into the program, the coordinator will assist the student in arranging interviews with cooperating industries.

**Engineering—General Education**

The following courses explore general education engineering topics.

**Lower-Division Course**

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 placed upon conceptual understanding of interrelationships between theory and its application. 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 10 125 1 0901

**Upper-Division Course**

300G. Technology and Society. (3). A course designed for senior students to integrate their classwork into a coherent concept of the major principles, tools and techniques of engineering. Prerequisites: senior standing, preferably taken last semester of undergraduate work. E 10 300G 1 0901

**Courses for Graduate/Undergraduate Credit**

510. Topics in Engineering. (1-3). New or special courses of general interest are presented on sufficient demand. Repeatable for credit when subject matter warrants. E 10 510 0 0901

585. 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, projections and the hidden line problem. Animated movies, computer-aided design and instruction are included as well as applications. Prerequisites: MATH 344, EE 223 or EQUIVALENT. E 10 585 1 0901

600. Integration of Engineering Concepts. (3). A course designed for senior students to integrate their classwork into a coherent concept of the major principles, tools and techniques of engineering. Prerequisites: senior standing, preferably taken last semester of undergraduate work. E 10 600 0 0901

**Aerospace Engineering**

Aerospace engineering students participate in an academic program which involves study in technical areas such as aerodynamic performance, propulsion, stability and control, and structures. After developing a background of academic skills in these areas, senior students complete a sequence of two courses in aircraft design.

The aerospace engineering curriculum also gives students the opportunity to develop strong fundamental knowledge in math, physics, general engineering, digital computation, written and oral communication skills, and humanities and social sciences.

Students have access to excellent laboratory facilities including six wind tunnels, a water tunnel, and a structural testing and composite structures lab. These facilities are among the finest found in academic institutions worldwide.

Aircraft plants in Wichita, commonly called the "Air Capital of the World," include Beech Aircraft Corporation, Boeing Military Airplanes, Cessna Aircraft Company and Learjet Corporation, making Wichita an ideal place for aerospace engineering education.

**Bachelor of Science Degree in Aerospace Engineering**

**Sequence of Courses**

The undergraduate program requires the completion of 133 semester hours for graduation, minus advanced placement credit. The suggested course of study for aerospace engineering students is given in the accompanying table.

**Model Program**

**Freshman**

Course | Hrs.  
---|---
Engl. 101 and 102, College English I and II | 6  
Chem. 111Q, General Chemistry | 5  
Math. 242Q and 243, Calculus I and II | 10  
Phys. 313Q and 315Q, University Physics I | 5  
IE 222, Engineering Graphics | 3  
AE 227, Engineering Digital Computation | 2  

**Sophomore**

Course | Hrs.  
---|---
Comm. 111, Basic Public Speaking | 3  
Math. 311, Introduction to Linear Algebra | 1  
Math. 344, Calculus III | 3  
Math. 550, Ordinary Differential Equations | 3  
Phys. 314Q, University Physics II | 4  
AE 223, Engineering Mechanics: Statics | 3  

**Junior**

Course | Hrs.  
---|---
AE 324, Introduction to Aeronautical Engineering | 2  
AE 333, Mechanics of Deformable Solids | 3  
AE 371, Engineering Mechanics: Dynamics | 3  
ME 398, Thermodynamics | 1  
Humanities and fine arts or social and behavioral sciences electives* | 6  

**Senior**

Course | Hrs.  
---|---
AE 512 Experimental Methods in Aerodynamics | 2  
AE 514, Flight Mechanics | 3  
IE 355, Engineering Economy | 3  
EE 382, Electrical Dynamics | 4  
AE 528 and 628, Airplane Design I and II | 6  
Natural sciences elective* | 3  
Humanities and fine arts or social and behavioral sciences electives** | 6  
Technical electives | 9  

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* Refer to general engineering requirements at the beginning of this section for list of approved courses.  
** Refer to graduation requirements at the beginning of this section for details.

**Lower-Division Courses**

223. Engineering Mechanics: Statics. (3). Statics is the study of the condition of equilibrium of rigid bodies under the action of forces. Rigid bodies include beams, trusses, frames and machines. Both two and three dimensional bodies are considered. Also included is the study of centroids, centers of gravity and moments of inertia. Corequisites: Math 243 and Phys. 313Q. E 11 223 0 0901


281A. Co-op Education. (1). This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be for
mulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full time on their co-op assignment and need not be enrolled in any other course. May be repeated. Grade is S/U. Prerequisites: AE 323, and Math. 344. The latter two may be taken concurrently. E 11 333 1 0921


420A. Airplane Aerodynamics I, Qualitative Aspects. (1). Aircraft nomenclature. Structure of the atmosphere. Aircraft forces and moments and their nondimensionalization. Lift and drag phenomena; separation and stall. Wing pressure distribution. Aircraft design procedure. Not acceptable as a technical elective for the BS in aerospace engineering. Prerequisites: ME 400 or departmental consent. E 11 420A 0 0920


481A. Co-op Education. (1). This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full time on their co-op assignment and need not be enrolled in any other course. Grade is S/U unless student has received permission for course to be used as a technical elective. Prerequisites: junior standing and approval by the appropriate faculty sponsor. May be repeated. E 10 481A 2 0901

481B. Co-op Education. (1). This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. Students must enroll concurrently in a minimum of 20 hours course work including this course in addition to a minimum of 20 hours per week at their co-op assignment. May be repeated. Grade is S/U. Prerequisites: junior standing and approval by appropriate faculty sponsor. E 10 481B 2 0901

Courses for Graduate/Undergraduate Credit

508. Systems Dynamics. (3). Lumped parameter modeling; classical, numerical, transform and state model methods of solution. Introduction to feedback theory with feedback analogies of various physical systems. Prerequisites: AE 373 and Math. 550. E 11 508 3 0901


525. Flight Structures I. (3), 2R; 3L. Stress analysis of flight vehicle components. Prerequisites: AE 324, AE 333, Math. 550 and ME 350. The latter two may be taken concurrently. E 11 525 3 0902

527. Numerical Methods in Engineering. (3). Error analysis, polynomial approximations and power series, iterative solutions of equations, matrices and systems of linear equations, numerical differentiation and integration, approximate solution of differential equations by finite differences are included. Prerequisites: AE 327 and Math. 550 which may be taken concurrently. E 11 527 1 0901


532. Propulsion. (3). Turbojet and turboprop engines; cycle analysis and performance prediction, study of inlet and exhaust problems and integration with airframe. Piston engines. Turbines and propellers—theory and performance. Prerequisites: AE 327, and AE 424 which may be taken concurrently. E 11 532 0 0902

607. Automatic Flight Controls I. (3). State variable methods. Review of aircraft dynamic transfer functions, feedback systems, sensors, actuators and controller design. Stability augmentation and introduction to guidance and digital systems. Prerequisites: E 11 607 0 0902

625. Flight Structures II. (3), 2R; 3L. Strength analysis and design of flight vehicle components. Introduction to energy methods and variational principles. Application of finite element method to the analysis of flight vehicle structures. Special projects in structural analysis and design. Prerequisite: AE 525. E 11 625 3 0902


653. Basic Composite Material Technologies. (3). An introduction to the basic composite material technologies including mechanical behavior, material classification, testing for mechanical properties, manufacturing technologies, nondestructive inspection, and design. Prerequisite: AE 320B. E 11 653 0 0921

654. Manufacturing and Composite Structures. (1-2). Manufacturing methods and tooling for fiber-reinforced polymer structures and structural components. Prerequisites: ME 350 and AE 653 both recommended. E 11 654 0 0921

660. Selected Topics. (1-3). Prerequisite: instructor's consent. E 11 660 0 0902

700. Structural Dynamics I. (2). 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
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. Prerequisite: AE 514. E 11 709 0 0902

A study of equations of motion, potential flow, conformal transformations, finite wing theory, nonsteady airflow theory and advanced numerical techniques in aerodynamics. Prerequisite: AE 424 or 420 or ME 621. E 11 711 0 0902

712. Advanced Aerodynamics Laboratory. (2). 1R; 2L. Advanced topics in wind tunnel testing, including analysis and sensitivity, numerical techniques in aerodynamics, and control. Prerequisite: AE 424 or 420 or ME 621. E 11 712 0 0902

Review of the equations of motion for aircraft. Nonlinear effects and aircraft response. Stability and control of elastic aircraft. Response to turbulence. Prerequisites: AE 514 or instructor's consent. E 11 714 0 0902

715. Space Dynamics I. (2).
Orbital mechanics, orbit determination, orbital maneuvers, attitude dynamics and maneuvers. Prerequisite: AE 373. E 11 715 0 0902

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, AE 420, ME 621 or equivalent. E 11 716 0 0902

Use of the finite element method for the analysis of simple structural configurations including trusses, frames and plates. Utilization of MASTAN and the Digital Computing Center facilities. Prerequisite: AE 333. E 11 722 0 0902

The equations of the theory of elasticity are developed and used to determine stress and displacement fields in linear elastic isotropic bodies. Airy stress functions are used to obtain solutions. Energy principles and variational methods are introduced. Prerequisite: instructor's consent. E 11 731 0 0921

The course is an extension of AE 333. Typical topics studied are transformation of stress and strain in three dimensions, noncircular torsional members, curved beams, beams with unsymmetric cross sections, energy methods and the finite element method of analysis, stress concentration, theories of failure, fracture mechanics, etc. Prerequisite: AE 333. E 11 733 0 0921

753. Mechanics of Fiber Composites. (3).
Classical laminate theory, failure theories, hygrothermal behavior. Other topics taken from fatigue, fracture toughness, damage tolerance, interlaminar stresses, flexure, buckling and vibration. Prerequisite: AE 653 desirable. E 11 753 0 0921

760. Selected Topics. (1-3).
Prerequisite: instructor's consent. E 11 760 0 0921

A study of kinematics and kinetics of particles and rigid bodies for two- and three-dimensional motion, with an introduction to vibratory motion. Lagrange's equations are included. Prerequisite: AE 373 or equivalent. E 11 773 0921

777. Vibration Analysis. (3).
A study of free, forced, damped and undamped vibrations for one and two degrees of freedom, as well as classical, numerical and energy solutions for multi-degree-of-freedom systems. An introduction to continuous systems is given. Prerequisites: Math. 550, AE 373 and 333. E 11 777 0 0921

Courses for Graduate Students Only

801. Structural Dynamics II. (2).
A study of vibration of strings and membranes; longitudinal, torsional and lateral vibration of bars; lateral vibration of plates and shells; classical, numerical and energy solutions; and an introduction to problems of aeroelasticity. Prerequisite: AE 677. E 11 801 0 0921

807. Automatic Flight Controls II. (3).
Application of modern control theory to flight vehicles. Review of stochastic control theory and Kalman filtering. Digital autopilot, stability augmentation system and guidance system design. Prerequisite: AE 607. E 11 807 0 0920

An introduction to panel methods and application for inviscid incompressible attached flows. Utilization of some two and three dimensional computer codes. Prerequisites: AE 711 and Math 757 or equivalent. E 11 811 0 0902

812. Aerodynamics of Viscous Fluids. (3).
Viscous flow theory and boundary layers. Prerequisites: AE 424 or 420 or ME 621. E 11 812 0 0902

814. Advanced Flight Dynamics II. (3).
Sensitivity analyses of flight parameters. Control surface sizing. Handling qualities. Flight in the-loop analysis. Prerequisites: AE 714 and EE 580 or AE 697. E 11 814 0 0902

815. Space Dynamics II. (2).
Missile and interplanetary trajectories, orbital perturbations, attitude control methods. Prerequisite: AE 714 or equivalent. E 11 815 0 0902

817. Transonic Aerodynamics. (2).
Experimental and analytical difficulties in flow and flight near Mach one. Basic equations and solution methods: linearized potential equation, shock-occlusion, critical point criteria, wave shelves; Transonic Area Rule; nozzle throat design; detached shock wave computations; computational methods. Prerequisites: AE 424, 420 or equivalent; and AE 711 or 716. E 11 817 0 0902

818. Hypersonic Aerodynamics. (2).

822. Finite Element Analysis of Structures. (3).
Formulation of the finite element equations by variational methods; the use of iso-parametric and higher order elements for analysis; and applications to problems in solid mechanics; introduction to solutions of nonlinear problems. Prerequisites: AE 722 and 731. E 11 822 0 0902

831. Analysis of Elastic Solids II. (3).
The course is a continuation of AE 731 covering more advanced topics in the theory of elasticity such as the analysis of nonlinear elastic bodies and anisotropic bodies. Prerequisite: AE 731. E 11 831 0 0921

832. Theory of Plates and Shells. (3).
Small deflections of thin elastic plates; classical solutions for rectangular and circular plates; approximate solutions for plates of various shapes; introduction to the analysis of thin shells. Prerequisite: 731. E 11 832 0 0921

Buckling of columns, frames, beams, plates and shells. Prerequisite: AE 731. E 11 833 0 0921

838. Random Vibration. (3).
Includes characterization, transmission and failure of mechanical systems subjected to random vibration. Analysis and measurement methods for random data are included. Prerequisites: instructor's consent. E 11 838 0 0921

860. Selected Topics. (1-3).
Prerequisite: instructor's consent. E 11 860 0 0902

876. MS Thesis. (1-6).
E 11 876 4 0902

878. Directed Studies. (1-2).
A course involving directed study under the supervision of a faculty member. A written report is required. Repeatable toward an MS degree. E 11 878 4 0902

911. Airfoil Design. (2).
Historical development of airfoils, underlying theories and experiments: modern airfoil design, philosophies and techniques. Theories used in modern airfoil computation methods; application of computer programs for practical airfoil design problems including high lift and control design. Prerequisites: AE 711, Math 757. E 11 911 0 0902

913. Aerodynamics of Aeroelasticity. (3).
A study of thin airfoils and finite wings in steady flow and thin airfoils oscillating in incompressible flow. Extension to compressible and three-dimensional airfoils and modern methods for low aspect ratio lifting surfaces are included. Prerequisites: AE 711 and 677 or instructor's consent. E 11 913 0 0902

916. Aerodynamics of Compressible Fluids II. (2).
An exploration of perfect gas flows past bodies of revolution. Also included are compressible method of characteristics, high temperature gases in equilibrium and frozen flows and one- and two-dimensional moving shock waves. An introduction is made to separated flows and jet mixing. Prerequisite: AE 711. E 11 916 0 0902

919. Computational Aerodynamics. (3).
An introduction to two-dimensional grid generation techniques and methods for solving two-dimensional Euler and thin layer Navier-Stokes equations. Use of GRAPES and ARC:II: AE 711, Math 757 and ME 758. E 11 919 0 0902

936. 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-dimensional and axially symmetric problems of finite deformation and variational and extremum principles are included. Prerequisite: AE 731. E 11 936 0 9021

960. Advanced Selected Topics. (1-3). Prerequisite: instructor's consent. E 11 960 0 9020

976. PhD Dissertation. (1-16). Repeatable up to a maximum of 36 hours. Prerequisite: ADMISSION TO DOCTORAL ASPIRANT STATUS. E 11 976 4 0902

990. Advanced Independent Studies. (1-3). Prerequisite: instructor's consent. E 11 990 3 0902

Electrical Engineering

In the electrical engineering department emphasis is placed on the intensive study of physical laws appropriate to the study of modern electrical devices, including electrical machines. Courses stress the laws governing the individual behavior as well as behavior in the interconnection of devices. Analysis and synthesis of electrical networks or systems are of particular concern in specialized courses. The undergraduate program in electrical engineering is flexible enough to allow students to concentrate their electives in communications and signal processing, control systems, computer science, electric power systems, digital systems, electromagnetics and electronics.

Bachelor of Science Degree in Electrical Engineering

Sequence of Courses

Electrical engineering students must have a strong interest in mathematics and physics. As part of the curriculum, senior-level students are required to take a senior project of their own choosing supervised by a faculty member. The choice of subject material varies and represents a challenge in judgment and creativity in design. This program requires the completion of 132 semester hours for graduation, minus hours commensurate with advanced placement credit.

Specific requirements and a suggested semester breakdown for the electrical engineering program are given in the accompanying table.

Model Program

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<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
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<tr>
<td>Engl. 101 and 102, College English I and II</td>
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<tr>
<td>Chem. 111Q, General Chemistry</td>
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<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
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<tr>
<td>Phys. 313Q, University Physics I</td>
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<th>Course</th>
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<tbody>
<tr>
<td><strong>Sophomore</strong></td>
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<tr>
<td>EE 218, Engineering Computing Fundamentals</td>
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<tr>
<td>Comm. 111, Basic Public Speaking, or Comm. 112, Basic Interpersonal Communication</td>
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<tr>
<td>Humanities and fine arts electives†</td>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td><strong>Junior</strong></td>
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<tr>
<td>Math. 344, Calculus III</td>
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<tr>
<td>Math. 550, Ordinary Differential Equations</td>
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<tr>
<td>Phys. 314Q, University Physics II*</td>
</tr>
<tr>
<td>AE 323, Engineering Mechanics Statics</td>
</tr>
<tr>
<td>IE 355, Engineering Economy †</td>
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<tr>
<td>EE 382, Electrical Dynamics</td>
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<tr>
<td>ME 398, Thermodynamics I †</td>
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<tr>
<td>Humanities and fine arts or social and behavioral sciences electives‡</td>
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<tr>
<td>Technical elective**</td>
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<tr>
<th>Course</th>
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<tr>
<td><strong>Senior</strong></td>
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<tr>
<td>EE 363, Electromagnetic Field Theory I</td>
</tr>
<tr>
<td>EE 488, Electromechanical Energy Converters</td>
</tr>
<tr>
<td>EE 492, Electronic Circuits I</td>
</tr>
<tr>
<td>EE 453, Transient and Frequency Analysis</td>
</tr>
<tr>
<td>Stat. 671, Probabilistic Models and Statistical Methods</td>
</tr>
<tr>
<td>Natural science elective*</td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences electives‡</td>
</tr>
<tr>
<td>Technical elective**</td>
</tr>
</tbody>
</table>

* One of the following must be taken: Math. 315 or 316 or a four-hour course from the natural science elective list.
† Out-of-department engineering courses.
‡ At least six hours must be taken in at least three departments in Division A, humanities and fine arts. At least six hours must be taken in at least two departments in Division B, social and behavioral sciences. At least 12 hours of General Studies courses must be taken in these divisions. The remaining courses, "Q" or "G," must be selected such that at least two courses are taken in one of the departments above. The two-course sequence must include at least one course numbered 200 or above. "G" and "Q" courses must be selected from the list of "G" and "Q" courses approved by the College of Engineering. The student is strongly urged to enroll in the mandatory nine hours of "G" courses before taking "Q" courses in Division A or B.
** 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 engineering design and 24 hours of engineering courses outside the electrical engineering department. The student is responsible for seeing that these requirements are met.

2. A minimum of nine credit hours must be taken within the electrical engineering department. These courses must include any two of EE 494, EE 568, EE 634 and EE 684.

Lower-Division Courses

218. Engineering Computing Fundamentals. (3). An introductory course in digital computer programming using FORTRAN with applications to elementary engineering problems. Both FORTRAN syntax rules and problem solving approaches are stressed. Laboratory exercises are given for students to gain experience in batch and interactive computing. Prerequisite: Math. 111 or 112. E 12 218 1 0909

228. Assembly Language Programming. (3). An introduction to microcomputer programming using machine language and assembly language programming concepts that illustrate basic principles and techniques. Prerequisite: EE 218 or equivalent. E 12 228 1 0909

248. Introduction to Engineering Analysis Techniques. (3). Introduction to laboratory methods, data collection and presentation, report writing, paper writing and presentation. Application of microcomputer wordprocessing and spread sheet programs to report writing and data presentation and the use of BASIC for analyzing laboratory results. Prerequisite: EE 317. E 12 248 0 0909

Upper-Division Courses


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, Phys. 314Q and EE 218 or AE 327. E 12 382 1 0909

477. 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 12 477 0 0909

480. Transient and Frequency Analysis. (3). 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. E 12 480 0 0909

481A. Co-op Education. (1). This course provides the student the opportunity to obtain practice in application of engineering principles by employment in an engineering-related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full-time on their co-op assignment and need not be enrolled in any other course. Prerequisite:
sites: junior standing and approval by appropriate faculty sponsor. E 12 481A 2 0909.

481P. Co-op Education. (1). This course provides the opportunity to obtain practice in application of engineering principles by employment in an engineering-related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. Students must enroll concurrently a minimum of 20 hours per week at their co-op assignment. Prerequisites: junior standing and approval by appropriate faculty sponsor. E 12 481P 2 0909.


492. Electronic Circuits I. (3). 3R. An introduction to semiconductor devices including discrete devices and integrated circuits and the application of these devices in linear and digital circuits. Applications include, but are not limited to, signal conditioning, logic circuits, active filters and power supplies. Prerequisites: EE 382 and Math. 550. E 12 492 1 0909.


Courses for Graduate/Undergraduate Credit

585. Electrical Design Project I. (1). 3L. A design project under student guidance and supervision of the instructor which is designed to prepare the student for work in communications, controls, computer systems and systems integration. May not be counted toward a graduate electrical engineering major. E 12 585 3 0909.


595. Electrical Design Project II. (1). 3L. May not be counted toward a graduate electrical major. Prerequisite: EE 585 or departmental consent. E 12 595 3 0909.

598. Electric Energy Systems. (3). 3R. Concepts of electric energy systems, high-energy transmission lines, system representation, load-flow analysis, load-flow control, economic operation, symmetrical and unsymmetrical faults and system stability. Computer applications are stressed. Prerequisite: EE 382. E 12 598 0 0909.

638. Microprocessor Systems and Application. (3). 3R. Study of microprocessor architectures and addressing, assembly language programming, interrupt processing, interfacing to input/output devices and numeric coprocessors. Assembly language programming and machine level design is stressed and tested to illustrate the major concepts. Prerequisites: EE 228 and at least one EE course at 400 level or above. E 12 638 0 0909.

663. Waves, Waveguides and Antennas. (3). A study of radiation and transmission of electromagnetic waves. Topics include plane wave propagation in various media, normal and oblique reflections, dielectric windows, transmission through waveguides and introduction to antennas. Prerequisite: EE 363, and EE 682. E 12 663 0 0909.

681. Electronic Circuits II. (4). 3R; 3L. An investigation of the theory and application of discrete and integrated circuits. Topics include, but are not limited to, threshold, analog and switched capacitor filters, nonlinear circuits, analog and digital phase locked loops, switched-mode power conversion and RF circuits. Prerequisite: EE 492 and 480 or departmental consent. May not be counted toward a graduate electrical major. E 12 681 1 0909.

682. Energy and Information Transmission. (2). 3R. A study of the theory and application of transmission lines. Both pulsed and steady state sinusoidal signals are treated. Topics include line parameters and equations, signal propagation, effects of terminations and resonant lines and stubs. Prerequisite or corequisite: EE 492. E 12 682 0 0909.


686. Power Electronics. (4). Course deals with the applications of solid-state electronics for the control and conversion of electric power. Topics include an overview of the role of the thyristor in power electronics applications and establishes the theory, characteristics and protection of the thyristor. Presents controlled rectification, static frequency conversion by means of the DC link-converter and the cycloconverter, emphasizing frequency, and voltage control and harmonic reduction techniques. Requirements of forced commutation methods applied to DC-DC converters and firing circuit requirement and methods will be presented. Applications of power electronics to control AC and DC motors using new methods such as microprocessor control will be introduced. Prerequisites: EE 481 and EE 492. D 12 686 1 0909.

689. Electronic Laboratory. (2). 3L. This course provides training in laboratory methods and in experimental design methods. It consists of selected experiments related to EE 461. Prerequisite or corequisite: EE 461 depending on the background of the students enrolled. May not be counted for credit toward a graduate electrical major. Prerequisites or corequisites: EE 481 and any two of EE 492, 598, 599, 638, 636 and 684. E 12 689 0 0909.

694. Digital Computer Design Fundamentals. (3). An introductory but reasonably detailed study of stored program digital computers from a integrated hardware-software approach. Consideration is given to computer logical design, arithmetic units and operation, large capacity storage systems, input-output units and systematic design. Prerequisites: EE 494 or departmental consent. E 12 694 0 0909.

754. Probabilistic Methods in Systems. (3). This is a course in random processes which is designed to prepare the student for work in communications, controls, computer systems and systems integration. Basic probabilistic concepts and useful analytical tools for engineering problems involving discrete and continuous random processes. Applications to system analysis and identification, analog and digital signal processing, parameter estimation and related disciplines will be discussed. Prerequisites: EE 480 and Stat. 671 or EE 354 or departmental consent. E 12 754 0 0909.

781. Analog Filters. (3) A detailed study of analog filter design methods. Both passive and active filters are included. Analog filter approximations are discussed; sensitivity and noise analysis is covered. Prerequisite: EE 681. E 12 781 0 0909.


786. Digital Communication Systems. (3). The theoretical and practical aspects of digital and data communication systems are presented. Topics covered include the models of a family of information sources as discrete processes; basic source and channel coding; multiplexing and framing; spectral and time domain considerations related to ASK, FSK, DPSS, QPSK, FSK, MSK and other techniques; the application of digital filters; the coding of digital information in both base-band and band-pass systems; intersymbol interference; effects of noise on system performance; optimization and general M-ary digital systems in signal-space. Prerequisites: EE 754 and 686. E 12 786 0 0909.

790. Independent Study in Electrical Engineering. (1-3). Arranged individual, independent study in specialized content areas in electrical engineering under the supervision of a faculty sponsor for credit. Prerequisite: departmental consent. E 12 790 4 0909.

792. 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 Lapunov and Lagrange stability and computation of the phase portrait for certain systems. Prerequisites: EE 460 or departmental consent. E 12 792 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 to the department's microprogrammable minicomputer. Prerequisites: EE 694 and 228 or equivalent. E 12 794 0 0909

798. Advanced Energy Systems. (3). A continuation of EE 598 with the topics treated in greater depth. Computer applications are stressed. Prerequisites: EE 598 or departmental consent. E 12 798 0 0909

Courses for Graduate Students Only

854. Stochastic Control Systems. (3). Review of the pertinent aspects of deterministic system models; stochastic processes and linear dynamic system models with emphasis on linear systems driven by white Gaussian noises, linear estimation and optimal filtering; design and performance analysis of Kalman filters. Prerequisites: EE 684 and 754. E 12 854 0 0909

876. MS Thesis, (1-3). Repeatable for credit toward the MS thesis option up to six hours. Prerequisite: prior consent of MS thesis adviser. 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 up to three times. Prerequisite: departmental consent. E 12 877 0 0909

878. Directed Studies in Electrical Engineering, (1-4). Repeatable toward the MS directed study option for up to four hours. The student must write a paper and give an oral presentation on the study made. Prerequisite: departmental consent. E 12 878 4 0909

883. Digital Filters, (3). A study of digital filter design methods. Both IIR and FIR filters are included. Software and hardware implementations are discussed; two-dimensional digital filters are introduced. Prerequisite: EE 782 or departmental consent. E 12 883 0 0909

884. Discrete-Time Control Systems, (3). Fundamentals of input-output and state-space analysis, difference equations and state-space representations; pole placement and observer design; dynamic programming and discrete minimum principle; linear state regulator design; inequality-constrained control problems. Prerequisites: EE 684 and 782. E 12 884 0 0909

886. Error Control Coding, (3). Fundamental topics from information theory which underlie source and error control coding are presented. Topics from finite field theory and vector spaces essential for the study of coding are reviewed. The concepts of code space, sphere packing and perfect codes are presented. Linear block codes are considered in detail, topics including such as error detection and correction concepts, parity check matrices and syndromes, Hamming code, cyclic codes, error-trapping decoding, error-correcting codes, burst-error-correcting codes, interleaving and product codes. Convolutional codes and topics such as the Viterbi algorithm for decoding are presented. Prerequisites: EE 686 and 754. E 12 886 0 0909

888. Selected Topics in Antennas and Propagation. (3). Determination of characteristics of practical antenna systems; radiation patterns and antenna impedance; diffraction, horns, slots, etc.; and wave propagation in the earth's environment, including tropospheric and ionospheric phenomena. Prerequisite: EE 663. E 12 888 0 0909

889. Advanced Electrical Laboratory. (2). 6L. Training in fundamental experimantal 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

901. Topics in Control Systems, (3). A study of various concepts such as multi-loop systems, multivariable systems and decoupling; nonlinear systems; and sampled-data systems. Repeatable for credit. Prerequisite: EE 684 or departmental consent. E 12 901 0 0909

903. Stochastic Techniques in Systems Theory, (3). A continuation of the study of state-space concepts in the areas of nonlinear systems and optimal and suboptimal control problems with wide classes of performance measures. Prerequisites: EE 792 or departmental consent. E 12 903 0 0909

905. Nonlinear Control Theory, (3). An introduction to the analysis and design of non-linear control systems with an emphasis on stability. Topics include stability definitions, phase-plane methods, linearization, time and frequency domain stability criteria, limit-cycle criteria and exact methods for relay control systems. Prerequisites: EE 684 and 792 or instructor's consent. E 12 905 0 0909

906. Advanced Selected Topics in Engineering, (1-3). New or special advanced topics in engineering are presented. Repeatable for credit. Prerequisite: instructor's consent. E 12 906 0 0909

976. PhD Dissertation, (1-16). Repeatable up to a maximum of 36 hours. Prerequisite: admission to doctoral aspirant status. E 12 976 4 0909

990. Advanced Independent Study in Engineering, (1-3). Arranged individual, independent study in specialized content areas in engineering under the supervision of a faculty adviser. Repeatable toward the PhD degree. Prerequisites: advanced standing and departmental consent. E 12 990 0 0909

993. Sensitivity Methods in Control Systems Design, (3). Sensitivity analysis of deterministic and stochastic systems; sources of uncertainty in control systems, e.g., plant parameter variation, time delays, small nonlinearities, noise disturbances and model reduction; quantitative study of the effects of uncertainties on system performance; low-sensitivity design strategies; state and output feedback design; sensitivity function approach, singular perturbation and model reduction techniques; adaptive systems and near-optimal control. Prerequisites: EE 893. E 12 993 0 0909

Industrial Engineering

The industrial engineering department is concerned with instruction and research in design, analysis and operation of integrated systems of people, material, equipment and money. Students may select 12 hours of technical electives to emphasize their study of operations research, human factors or manufacturing systems. This allows students to specialize in a specific area of industrial engineering, and students' programs are determined by their own interests in consultation with their faculty advisors.

Modern, well-equipped laboratories are available to supplement classroom theory in human factors engineering, manufacturing processes and computer analysis. The industrial engineering department also has modern computer graphics facilities.

Bachelor of Science Degree in Industrial Engineering

Sequence of Courses

The industrial engineering program requires the completion of 134 semester hours for graduation, minus hours commensurate with advanced placement credit. Specific requirements and a suggested semester breakdown for the industrial engineering program are given in the accompanying table.

Model Program

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
<td>10</td>
</tr>
<tr>
<td>Phys. 319Q, University Physics I</td>
<td>4</td>
</tr>
<tr>
<td>Phys. 319Q, University Physics lab</td>
<td>1</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking, or Comm. 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math. 311, Introduction to Linear Algebra</td>
<td>1</td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Math. 550, Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>Phys. 314Q, University Physics II</td>
<td>4</td>
</tr>
<tr>
<td>AE 323, Engineering Mechanics: Statics</td>
<td>3</td>
</tr>
<tr>
<td>EE 218, Engineering Computing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>AE 373, Engineering Mechanics: Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>IE 222, Engineering Graphics</td>
<td>3</td>
</tr>
<tr>
<td>ME 398, Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 201Q, Principles of Economics</td>
<td>3</td>
</tr>
<tr>
<td>Econ. 202Q, Principles of Economics II</td>
<td>3</td>
</tr>
</tbody>
</table>
### Lower-Division Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AE 333</td>
<td>Mechanics of Deformable Solids I</td>
<td>3</td>
</tr>
<tr>
<td>IE 354</td>
<td>Engineering Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>IE 355</td>
<td>Engineering Economy</td>
<td>3</td>
</tr>
<tr>
<td>IE 452</td>
<td>Work Measurement</td>
<td>3</td>
</tr>
<tr>
<td>IE 549</td>
<td>Human Factor in Engineering Design</td>
<td>3</td>
</tr>
<tr>
<td>IE 450</td>
<td>Applied Operations Research</td>
<td>3</td>
</tr>
<tr>
<td>IE 558</td>
<td>Manufacturing Methods and Materials</td>
<td>3</td>
</tr>
<tr>
<td>ME 350</td>
<td>Materials Engineering</td>
<td>4</td>
</tr>
</tbody>
</table>

### Upper-Division Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>281P</td>
<td>Co-op Education (1)</td>
<td>3</td>
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### Senior Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>IE 553</td>
<td>Production Control</td>
<td>3</td>
</tr>
<tr>
<td>IE 554</td>
<td>Statistical Quality Control</td>
<td>3</td>
</tr>
<tr>
<td>IE 556</td>
<td>Introduction to Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>IE 570</td>
<td>Manufacturing Process Control</td>
<td>3</td>
</tr>
<tr>
<td>IE 590</td>
<td>Senior Projects in Industrial Engineering</td>
<td>2</td>
</tr>
<tr>
<td>IE 665</td>
<td>Management Systems Simulation</td>
<td>3</td>
</tr>
</tbody>
</table>

### Technical electives

3

### Out-of-department courses

* Out-of-department engineering courses.

* Refer to general engineering requirements at beginning of this section for list of approved courses.

### Graduation/Undergraduate Credit

549. The Human Factor in Engineering Design (3).

A systematic approach to the optimization of human-environment interac-

* Topics include human information processing and limitations, work space design and human operators.

Prerequisite: IE 354. E 13 549 0 0913

553. Production Control (3). Quantitative techniques used in the analysis and control of production systems. Topics include forecasting, inventory methods, operation planning and scheduling.

Prerequisite: IE 450. E 13 553 1 0913

554. Statistical Quality Control (3). Measurement and control of product quality using process control and acceptance sampling techniques.

Prerequisite: IE 354. E 13 554 1 0913

556. Introduction to Information Systems (3). A study of the design, implementation and economic analysis of computer-based information systems.

Prerequisite: IE 355. E 13 556 0 0913


Prerequisite: IE 354. E 13 558 0 0913

570. Manufacturing Process Control (3). Fundamentals of microprocessors and microcomputers for industrial engineering applications. Topics include basic computer concepts, data acquisition, and system development.

Prerequisite: IE 354. E 13 570 0 0913

590. Senior Projects in Industrial Engineering (1-3). Selection and research of a specific industrial engineering topic. Prerequisites or corequisites: IE 452 and 450 E 13 590 3 0913


Prerequisites: IE 354 and 355. E 13 595 1 0913

664. Engineering Management (3). A study of management approaches to the resolution of problems involved in research and development and engineering projects.

Topics includePERT, CPM, limited resource scheduling and budgeting.

Prerequisite: IE 354. E 13 664 0 0913


Topics include robot classification and configuration, actuator/robot sensors, control systems, robot programming, and economic justification.

Prerequisite: IE 218 or 354. E 13 670 0 0913


Prerequisite: IE 354. E 13 701 0 0913

700. Industrial Robotics I (3). A study of principles and applications of industrial robots in modern manufacturing systems.

Topics include robot classification and configuration, actuator/robot sensors, control systems, robot programming, and economic justification.

Prerequisite: IE 218 or 354. E 13 670 0 0913

549. The Human Factor in Engineering Design (3).

A systematic approach to the optimization of human-environment interac-

* Topics include human information processing and limitations, work space design and human operators.

Prerequisite: IE 354. E 13 549 0 0913

553. Production Control (3). Quantitative techniques used in the analysis and control of production systems. Topics include forecasting, inventory methods, operation planning and scheduling.

Prerequisite: IE 450. E 13 553 1 0913

554. Statistical Quality Control (3). Measurement and control of product quality using process control and acceptance sampling techniques.

Prerequisite: IE 354. E 13 554 1 0913

556. Introduction to Information Systems (3). A study of the design, implementation and economic analysis of computer-based information systems.

Prerequisite: IE 355. E 13 556 0 0913


Prerequisite: IE 354. E 13 558 0 0913

570. Manufacturing Process Control (3). Fundamentals of microprocessors and microcomputers for industrial engineering applications. Topics include basic computer concepts, data acquisition, and system development.

Prerequisite: IE 354. E 13 570 0 0913

590. Senior Projects in Industrial Engineering (1-3). Selection and research of a specific industrial engineering topic. Prerequisites or corequisites: IE 452 and 450 E 13 590 3 0913


Prerequisites: IE 354 and 355. E 13 595 1 0913

664. Engineering Management (3). A study of management approaches to the resolution of problems involved in research and development and engineering projects.

Topics includePERT, CPM, limited resource scheduling and budgeting.

Prerequisite: IE 354. E 13 664 0 0913


Topics include robot classification and configuration, actuator/robot sensors, control systems, robot programming, and economic justification.

Prerequisite: IE 218 or 354. E 13 670 0 0913


Prerequisite: IE 354. E 13 701 0 0913
720. Urban Systems. (3). Cross-listed as P. Adm. 720. This course develops the principles of systems analysis and the tools by which these principles can be applied. Examples are taken from urban problems. The fundamentals of real-time models and solutions. Computer techniques are developed in class as necessary. Prerequisite: departmental consent. E 13 720 0 0913

740. Analysis of Decision Processes. (3). A study of time value of money, economic costs and benefits, evaluation of proposals, computer analysis and the solution of economic problems by the analysis of certainty, risk and uncertainty. Prerequisites: IE 354 and 355. E 13 740 0 0913

743. Applied Operations Research. (4). A study of various techniques used in operations research. Included are mathematical programming, queuing theory, inventory models and simulation. Prerequisites: IE 354 and EE 218. E 13 743 0 0913

745. Production Engineering Cases. (3). Principles of manufacturing process planning for discrete parts. The mathematical development of the design of the workplace, displays, controls, computer-aided design, hand tools and video display terminals. Prerequisite: IE 549. E 13 749 0 0913

750. Industrial Engineering Workshops. (1-4). Various topics in industrial engineering. Prerequisite: departmental consent. E 13 750 2 0913

753. Facilities Planning and Design. (3). Quantitative and qualitative approaches to problems in facilities planning and design, with emphasis on activity responsibilities, space requirements, material handling and storage, plant layout and facilities location. Prerequisite: IE 553. E 13 753 0 0913

754. Reliability and Maintainability Engineering. (3). The determination of the quantities useful in assessing and verifying reliability are studied. Various factors that determine the capabilities of components with emphasis on practical applications are presented. Examples and problems cover a broad range of engineering fields. Prerequisite: IE 354. E 13 754 0 0913

765. Decision Support Systems. (3). A study of various decision support systems techniques including relational database, spreadsheet models and expert systems. Prerequisite: IE 356 or departmental consent. E 13 765 0 0913

757. Modern Techniques in Safety Engineering. (3). An advanced study of the principles and quantitative measures of industrial safety and the Occupational Safety and Health Act. Prerequisite: IE 357. E 13 757 0 0913

760. Engineering Probability and Statistics II. (3). A study of hypothesis testing, regression analysis, correlation, covariance analysis and nonparametric statistics with emphasis on applications to engineering. Prerequisite: IE 354. E 13 760 0 0913

764. Systems Engineering and Analysis. (3). Presentation of system design process from the identification of a need through conceptual design, preliminary design, detailed system design, and system test and evaluation. Operational feasibility, reliability, maintainability, supportability and economic feasibility are studied. Prerequisites: IE 354 and 355. E 13 764 0 0913

775. Computer Integrated Manufacturing. (3). Analysis and design of manufacturing systems using computers. Topics include computer aided techniques, group technology, applications of minicomputers to manufacturing systems, and simulation. Prerequisites: IE 558 and 570. E 13 775 0 0913

780. Topics in Industrial Engineering. (2). New or special courses are presented under this listing. Repeatable for credit when subject matter warrants. E 13 780 0 0913

Courses for Graduate Students Only

830. Advanced Linear Programming. (3). A continuation of IE 450. Topics include the mathematical programming and integer programming. Prerequisite: IE 450. E 13 830 0 0913

831. Classical Optimization Techniques. (3). An extensive treatment of 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 450. E 13 831 0 0913

832. Queueing and Inventory Systems. (3). An introduction to the behavior of queueing and inventory systems and their interrelationships. Poisson, non-Poisson and fixed-bounded variables, parametric programming, and integer programming. Prerequisite: IE 450. E 13 832 0 0913

835. Applied Forecasting Methods. (3). Analysis of prediction techniques in forecasting and scheduling by time series and probability models, smoothing techniques and error analysis. Prerequisite: IE 760. E 13 835 0 0913

842. System Simulation with Digital Computers. (3). Advanced development of the techniques and methods for simulating complex systems. Emphasis is on the design of simulation experiments and on the statistical analysis of results. Prerequisite: IE 665. E 13 842 0 0913

843. Operations Research. (3). A study of the principles of the application of nonlinear model-building techniques for the problems found in industry. Included are the Jacobian method; LeGrage multipliers; separable convex, quadratic, geometric and stochastic programming. Prerequisites: IE 450 and 650. E 13 843 0 0913


845. Industrial Engineering Problems. (1-3). Analysis, research and solution of a selected problem. E 13 849 0 0913

857. Environmental Hygiene Engineering. (3). Evaluation and control of mechanical, physical and chemical environments. Environmental factors considered include heat, cold, noise, vibration, light, pressure, acceleration, radiation and air contaminants. Prerequisite: IE 549. E 13 857 0 0913

860. Engineering Management Communications. (3). This course is a study of the principles of technical communications for specific audiences, the writing process, the editing of your own and others' technical writing, formal presentation of technical material and the design of visual aids. E 13 860 0 0913

870. Flexible Manufacturing Systems. (3). Advanced study of modern, computer integrated manufacturing systems. Topics include integrated CAD/CAM systems, data bases in an FMS, robots and application, interfacing machines, computers and measuring devices. Prerequisite: IE 570. E 13 870 0 0913

876. Thesis. (1-5). Prerequisite: consent of thesis adviser. E 13 876 0 0913

879. Seminar in Management Science. (3). Application of management science methods and models to real problems. A special project, including original case research, supervised internships or field research, is assigned. Prerequisite: departmental consent. E 13 879 0 0913

880. Topics in Industrial Engineering. (3). New or special courses are presented under this listing on sufficient demand. Repeatable for credit when subject matter warrants. E 13 880 0 0913

936. Multiple Criteria Decision Making. (3). An extensive treatment of techniques for decision making where the multiple criteria nature of the problem must be recognized explicitly. Prerequisites: IE 450 or 743. E 13 930 0 0913

949. Work Physiology. (3). The study of cardiovascular, pulmonary and muscular responses to industrial work including aspects of endurance, strength, fatigue, recovery and the energy cost of work. Utilization of physical factors, work capacity and job demand for task design, personnel assignment and assessment of work-rest scheduling. Prerequisite: IE 549. E 13 949 0 0913

950. Occupational Biomechanics. (3). Theoretical fundamentals of the link system of the body where the multiple criteria nature of the problem must be recognized explicitly. Prerequisites: IE 549 and AE 323. E 13 950 0 0913

955. Knowledge-Based Systems. (3). Introduction to the concepts and techniques in knowledge-based systems or expert systems. Includes design and development of simple and complex systems using microcomputer-based software. E 13 956 0 0913

970. Industrial Robotics II. (3). An advanced study of modern robotics systems. The course emphasizes the design of the robotic cell for manufacturing industry. Topics include artificial intelligence in robotics, vision systems, smart robot applications, automation with robots and flexible assembly. Prerequisite: IE 670. E 13 970 0 0913
Mechanical Engineering
The Mechanical Engineering Department provides students with a comprehensive engineering education. Graduates of the program are found in all phases of engineering activity: research, development, design, production and technical management. Graduates are employed or self-employed in such diverse fields as mechanical engineering design; analysis of thermodynamic and transport processes; instrumentation, controls and automation; engineering materials properties and failure modes; and bioenvironmental engineering, including heating, ventilating and air conditioning. Practicing mechanical engineers are found in virtually every sector of every activity in the developed and developing nations of the world.

Students are prepared to accept these challenges through an integrated course of study which emphasizes the professional practice of engineering. The program has several components: a basic series of courses in mathematics and natural science, communications, humanities and social sciences; a core of engineering science subjects; a set of required design and application courses; and a group of technical electives. The electives, which are taken during the senior year, permit further study in the fields of specialization enumerated in the introductory paragraph.

The mechanical engineering program also prepares students so that they might enter graduate school if they choose. Many times, both undergraduate and graduate students work with professors on research projects. This experience gives undergraduate students some research experience so that they might better decide if they would like to apply to graduate school.

Modern, well-equipped laboratories, both at the undergraduate and graduate research levels, are available for students. The College of Engineering also has modern microcomputer facilities available for computer graphics as well as computational needs. In addition, the University makes available a contemporary central processing system which serves all students.

Bachelor of Science Degree in Mechanical Engineering

Sequence of Courses
The program requires the completion of 134 semester hours for graduation, minus hours commensurate with advanced placement credit. Specific requirements and a suggested course of study for the mechanical engineering program are given in the table.

Model Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Freshman</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl. 101 and 102, College English I and II</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Math. 242Q and 243, Calculus I and II</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Phys. 313Q, University Physics I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Phys. 315Q, University Physics Lab I</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking, or Comm. 112, Basic Interpersonal Communication</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Humanities and fine arts or social and behavioral sciences elective</td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Sophomore</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Math. 311, Introduction to Linear Algebra</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Math. 344, Calculus III</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math. 550, Ordinary Differential Equations</td>
<td>3</td>
<td></td>
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<tr>
<td>Phys. 314Q, University Physics II</td>
<td>4</td>
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</tr>
<tr>
<td>AE 323, Engineering Mechanics: Statics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 327, Engineering Digital Computations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>AE 333, Mechanics of Deformable Solids I</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>AE 373, Engineering Mechanics: Dynamics I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IE 222, Engineering Graphics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ME 339, Elements of Mechanical Engineering Design</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ME 398, Thermodynamics I</td>
<td>3</td>
<td></td>
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<tr>
<td>Humanities and fine arts or social and behavioral sciences elective</td>
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<table>
<thead>
<tr>
<th>Course</th>
<th>Junior</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>IE 355, Engineering Economy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EE 382, Electrical Dynamics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ME 350, Materials Engineering</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ME 400, Fluid and Heat Flow (R)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ME 401, Fluid and Heat Flow (L)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ME 402, Mechanical Engineering Measurements</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ME 439, Mechanical Engineering Design I</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

ME 502, Thermodynamics II | 3 |
ME 621, Fluid Mechanics | 3 |
Science elective | 3 |
Humanities and fine arts or social and behavioral sciences elective | 3 |

Senior Course Hrs.
ME 503, Mechanical Engineering Laboratory | 2 |
ME 541, Mechanical Engineering Design II | 3 |
ME 622, Heat Transfer | 3 |
ME 659, Mechanical Control | 3 |
ME 662, Mechanical Engineering Practice | 3 |
Engineering electives | 13 |
Humanities and fine arts or social and behavioral sciences electives | 8 |

* Nine hours of General Studies must be included and at least two courses must be selected in one department so as to form a coherent course sequence with at least one of these courses numbered 200 or above.

† Qualiﬁed students may substitute ME 670 and 671.
‡ The following requirements concern engineering electives (13 hours required):
1. A minimum of three hours must be selected from engineering courses outside of the ME department.
2. A minimum of seven hours must be selected from ME department courses. Only students with senio standing and a 3.0 or greater overall GPA will be allowed to enroll in ME 700-level courses.

Lower-Division Courses

281A. Co-op Education. (1). This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full time on their co-op assignment and need not be enrolled in any other course. May be repeated. Offered Cr/Nr only. Prerequisites: successful completion of 30 hours toward an engineering degree and approval by the appropriate faculty sponsor. E 14 281A 2090

281P. Co-op Education. (1). This course introduces the student to engineering practice by working in industry in an engineering-related job and provides a planned professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. Students enrolling in ME 281P must enroll concurrently in a minimum of six hours of course work including this course in addition to a minimum of 20 hours per week at their co-op assignment. May be repeated. Offered Cr/Nr only. Prerequisites: successful completion of 20 hours toward an engineering degree and approval by the appropriate faculty sponsor. E 14 281P 2090

Upper-Division Courses

339. Elements of Mechanical Engineering Design. (3). Introduction to engineering de-
sign process; design, analysis and optimization. Basic kinematics; motion and force analysis in mechanisms such as plane linkages, gears and cams. Synthesis of plane linkages and simple cam systems. Computer applications: use of CAD and AE 327 with a grade of C or better and AE 373, which may be taken concurrently. E 14 339 0 0910

350. Materials Engineering. (4). 3R; 3L. Study of important structural materials used in engineering, including metals, polymers and ceramics, from a phenomenological viewpoint. Prerequisites: AE 333 and Chem 111Q, both with C or better grade. E 14 350 1 0910

398. Thermodynamics I. (3). A study of the first and second laws. Thermodynamic analysis is applied to thermal, mechanical and fluid systems. Prerequisites: Math. 243 and Phys. 313Q, both with C or better grade, and AE 327 or EE 218, which may be taken concurrently. E 14 398 0 0910

400. Fluid and Heat Flow. (4). 4R. A study of pressure and velocity fields; kinematics of perfect and real fluids; dimensional analysis and similarity; temperature fields and heat transfer, conduction, convection and radiation, as well as an introduction to gas dynamics. ME 401, Fluid and Heat Flow Laboratory complements the analytic content of ME 400 with laboratory experiments designed to illustrate the concepts presented in the latter course. Prerequisites: Phys. 314Q and ME 398, both with C or better grades, and Math 550, which may be taken concurrently. E 14 400 1 0910

401. Fluid and Heat Flow Laboratory. (1) 3L. This laboratory course is designed to illustrate and reinforce the concepts presented in ME 400. Prerequisite or corequisite: ME 400. ME 400 shall result in immediate automatic withdrawal from ME 400 if both are taken concurrently, withdrawal from ME 400 shall result in immediate automatic withdrawal from ME 401. E 14 401 1 0910

402. Mechanical Engineering Measurements. (3). 2R; 3L. An introduction to modern measurement techniques in mechanical engineering. Prerequisites: ME 398 and 400, both with C or better grades and EE 382, which may be taken concurrently. E 14 402 1 0910

439. Mechanical Engineering Design I. (3). Principles of mechanical design, with emphasis on practice in the application of many mechanical design elements—shafts, bearings, gears, brakes, clutches, thread fasteners, etc. Topics include machine elements design, material selection, fatigue, stress concentration, statistical concepts and cost standardization. Innovative practical applications demanding integration of machine elements into a practical device. Prerequisites: ME 398, AE 333 and Math. 550. E 14 439 0 0910

450. Selected Topics in Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 450 0 0910

469. Energy Conversion. (3). Energy conversion principles and their implementation in engineering devices including thermal-mechanical, nuclear and direct energy conversion processes. Prerequisite: ME 398. E 14 469 0 0910

481A. Co-op Education. (1). This course provides the student the opportunity to obtain practice in application of engineering principles by employment in an engineering related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. This course is intended for students who will be working full time on the job while enrolled in any other course. Prerequisites: junior standing and approval by the appropriate faculty sponsor. E 14 481A 2 0910

481P. Co-op Education. (1). This course provides the student the opportunity to obtain practice in application of engineering principles by employment in an engineering related job integrating course work with a planned and supervised professional experience. Individualized programs must be formulated in consultation with, and approved by, appropriate faculty sponsors and cooperative education coordinators. Students enrolling in ME 481P must enroll concurrently in a minimum of 20 hours per week at their co-op assignment. Prerequisites: junior standing and approval by the appropriate faculty sponsor. E 14 481P 2 0910

Courses for Graduate/Undergraduate Credit

The courses numbered 502 through 758 are not automatically applicable toward an advanced degree in engineering. They must be approved by the student's adviser, the graduate coordinator and the chairperson of the department. Courses required for the BS degree normally are not permitted for use toward the graduate degree in mechanical engineering.

502. Thermodynamics II. (3). Continuation of ME 398, with emphasis on availability, irreversibility, Maxwell's equations and thermodynamic property relations. Prerequisites: ME 398, with grade of C or better. E 14 502 0 0910

503. Mechanical Engineering Laboratory. (2). 6L. Selected experiments designed to illustrate the methodology of experimentation as applied to mechanical and thermal systems. Experimental include the measurement of performance of typical systems and evaluation of physical properties and parameters of systems. Prerequisites: ME 402, 541, 622. E 14 503 1 0910

541. Mechanical Engineering Design II. (3). 2R; 3L. Applications of the engineering design concepts and principles to the design of mechanical equipment. Problem definition, conceptual design, feasibility studies, design calculations to obtain creative solutions of current real engineering problems. Introduction to human factors, economics and reliability theory. Group and individual design projects. Prerequisites: ME 350 and 493 with a grade of C or above in both. E 14 541 1 0910

544. Environmental Engineering. (3). Theory, analysis and design of heating, ventilating and air-conditioning systems based on psychometrics, thermodynamics and heat transfer fundamentals. Emphasis is on design procedures for spaces air-conditioning and heating and cooling loads in buildings. Prerequisites: ME 400 and 502. E 14 544 0 0910

548. Mechanical Engineering Projects. (1). A design, analysis or research project under faculty supervision. Problems are selected according to student interest. Prerequisites: ME 402 and senior standing. E 14 548 3 0910

550. Selected Topics in Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 550 0 0910

621. Fluid Mechanics. (3). Continuation of fluid mechanics stem of ME 400. Analysis of steady and unsteady, incompressible and compressible, multidimensional flow fields with emphasis on continuity, momentum and energy equations. Included are potential flow, boundary layer theory and fluid machinery. Prerequisites: ME 400. E 14 621 0 0910

622. Heat Transfer. (3). A continuation of heat transfer stem of ME 400. Study and transient multidimensional conduction, free and forced convection, radiation and combined heat transfer. Various analytical methods, analogies, numerical methods and approximate methods are used. Prerequisites: ME 400 and 621 (may be taken concurrently). E 14 622 0 0910

630. Biomechanical Engineering. (3). Study of the physiology and biophysics of the living body from the viewpoint of basic mechanical engineering principles. Various artificial organs and life support systems are introduced and discussed. Prerequisites: ME 400 and Math. 550. E 14 630 0 1910

641. Thermal Systems Design. (3). Modeling, simulation and optimization used as tools in the design of thermal systems. Engineering design principles, characteristics of thermal systems and design considerations are discussed. Open-ended problems are studied, including work on design projects in small groups. Prerequisites: ME 400 and 502, both with a grade of C or better. E 14 641 0 0910

648. Mechanical Engineering Projects. (1). A design, analysis or research project under faculty supervision. Problems are selected according to student interest. Prerequisite: ME 548. E 14 648 3 0910

650. Selected Topics in Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 650 0 0910

659. Mechanical Control. (3). Modeling and simulation of dynamic systems. Theory and analysis of the dynamic behavior of control systems, based upon the laws of physics and mechanics. Various classical methods of feedback control systems and design. Prerequisites: ME 402 and 439. E 14 659 0 0910

662. Mechanical Engineering Practice. (2). 4L. An exercise in the practice of mechanical engineering in which students work on a comprehensive project (at least requiring the integration of knowledge gained in prerequisite engineering science and design courses. Open only to mechanical engineering students in their senior year. Prerequisite: ME 541. E 14 662 1 0910

670. Senior Thesis I. (1). A design, analysis or research project performed under faculty direction. Enrollment is limited to mechanical engineering students who are in the last two
semesters of their studies and requires recommendation by a member of the department faculty and approval of the department chairperson. Prerequisites: ME 541 which may be taken concurrently, and departmental consent. E 14 670 3 0910

671. Senior Thesis II. (1). A continuation of ME 670. Prerequisite: ME 670. E 14 671 3 0910

705. Design of Engineering Experiments. (3). Study of theoretical, analytical and statistical aspects of basic engineering experiments. Theories of test planning, data checking, analysis and synthesis and evaluation are considered. Prerequisite: departmental consent. E 14 705 1 0910

734. Solar Engineering. (3). A study of solar energy with methods of collection conversion system analysis and economics. Emphasis on solar space and water heating systems. Prerequisite: ME 544 or departmental consent. E 14 734 0 0910

741. Nuclear Engineering. (3). Study of the fundamental aspects of nuclear physics and its application in energy production, including nuclear reaction, neutron interaction, reactor core physics, nuclear heat transfer and nuclear reactors. Prerequisites: ME 400 and Math. 550. E 14 741 0 0910

744. Advanced Environmental Engineering. (3). A continuation of ME 544 with an emphasis on building energy systems related to the design and selection of heating, ventilating and air-conditioning equipment and distribution sub-systems. Prerequisite: ME 544 or departmental consent. E 14 744 0 0910

749. Kinematics and Dynamics of Machines. (3). Analysis and synthesis of mechanisms, force analysis of machines. Prerequisites: ME 439, E 14 749 0 0910

750. Special Topics in Mechanical Engineering. (1-3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 750 0 0910

755. Intermediate Thermodynamics. (3). Laws of thermodynamics, introduction to statistical concepts of thermodynamics, thermodynamic properties, chemical thermodynamics, Maxwell's relations. Prerequisite: ME 502 or departmental consent. E 14 755 0 0910

758. Computational Fluid Dynamics and Heat Transfer I. (3). Basic finite difference methods, finite difference representation of partial differential equations. Stability analysis. Finite difference methods for wave equation, heat conduction equation, Laplace's equation and Burgers' equation, Grid generation. Prerequisites: ME 621 and 622 or equivalent. E 14 758 0 0910

* Normally not permitted for use toward the graduate degree in mechanical engineering.

Courses for Graduate Students Only

801. Boundary Layer Theory. (3). Development of the Navier-Stokes equation, laminar boundary layers, transition to turbulence, turbulent boundary layers and an introduction to homogeneous turbulence. Prerequisite: Math. 561 or departmental consent. E 14 801 0 0910

845. Fracture. (3). Ductile and brittle fracture: phenomena and mechanisms, linear elastic fracture mechanics, transition temperature approaches, tests for fracture resistance and design methods. Prerequisite: departmental consent. E 14 845 0 0910

846. Fatigue and Wear. (3). Fatigue of metals and nonmetals: phenomena, fatigue testing procedures and design methods. Survey of wear problems in engineering. Prerequisite: departmental consent. E 14 846 0 0910

850. Special Topics in Mechanical Engineering. (3). New or special topics are presented under this listing on sufficient demand. Repeatable for credit when subject material warrants. Prerequisite: departmental consent. E 14 850 0 0910

851. Heat Transfer-Conduction. (3). Theory and measurement, Fourier’s equation, steady and unsteady state with and without heat sources and sinks and numerical methods. Prerequisites: ME 622, Math. 757 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. (3). Radiative properties of real surfaces, configuration factor analysis, radiative transfer in participating media, exchange factor analysis, Monte Carlo methods. Prerequisite: ME 622 or departmental consent. E 14 853 0 0910

856. Advanced Thermodynamics. (3). Statistical thermodynamics, Boltzmann Bose-Einstein and Fermi Dirac statistics, calculation of thermodynamic properties, elementary kinetic theory, introduction to irreversible thermodynamics. Prerequisite: ME 502 or departmental consent. E 14 856 0 0910

858. Computational Fluid Dynamics and Heat Transfer II. (3). Vector form of the Navier-Stokes and the energy equation. Generalized transformation of the flow equations to the computational domain. Numerical methods for inviscid flow equations, boundary layer type equations, "parabolized" Navier-Stokes equations and the Navier-Stokes equations. Prerequisite: ME 758 or equivalent. E 14 858 0 0910

860. Electromechanical Control Systems. (3). Description, analysis and design of electromechanical control systems, with an emphasis on actual devices. Prerequisite: ME 659 or departmental consent. E 14 860 0 0910

861. Similitude in Engineering. (2). Critical analysis of models and analogies as aids to engineering design. Prerequisite: departmental consent. E 14 861 0 0910

868. Rational Design Methods. (3). The principles of creativity, decision theory, modeling, optimization and reliability as applied to problems of engineering design. Prerequisite: departmental consent. E 14 868 0 0910

876. Thesis. (1-4). E 14 876 4 0910

878. Directed Studies. (1-4). Repeatable as approved in the Graduate School plan of study. The student must write a paper. Students selecting the directed study option to fulfill the degree requirement need also to take an oral examination on the study made. Prerequisite: departmental consent. E 14 878 4 0910

901. Advanced X-Ray Diffraction Theory. (3). The first part of this course concentrates on the fundamental X-ray diffraction theories, including dynamical theory of X-ray and anomalous absorption, with which a serious student in this field must be thoroughly familiar. The second part of this course emphasizes the general theory of X-ray diffraction in a concise and elegant form using Fourier transforms. The general theory is then applied to various atomic structures, ideal crystals, imperfect crystals and amorphous bodies. Prerequisites: ME 750, Math. 757. E 14 901 0 0910

976. PhD Dissertation. (1-16). Repeatable up to a maximum of 36 hours. Prerequisite: admission to doctoral aspirant status. E 14 976 4 0910

990. Advanced Independent Study in Engineering. (1-16). Arranged individual, independent study in specialized content areas. Repeatable toward the PhD degree. Prerequisites: advanced standing and instructor’s consent. E 14 990 3 0910

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of lab.
College of Fine Arts

Rhoda-Gale Pollack, PhD, Dean

The College of Fine Arts is responsible for instruction, scholarly inquiry, performance and practice in music, dance, theatre and visual arts. The School of Art and Design, the School of Music and the School of Performing Arts—Dance and Theatre—offer professional training programs at the undergraduate and graduate levels.

Students are offered a complete spectrum of artistic endeavors, whether they are interested in professional activities, teaching careers, graduate study or acquiring an appreciation of the arts. Students have the opportunity to explore various art forms as well as to develop their ability to respond to changes and challenges within the art world. The college strives to develop and utilize new artistic techniques, current historical research and recent technical innovations to achieve these ends.

The School of Music is an accredited member of the National Association of Schools of Music and the dance program is an accredited member of the National Association of Schools of Dance. Both programs follow requirements for entrance and graduation that are in accordance with the associations’ published regulations.

Degrees Offered

Undergraduate

The College of Fine Arts offers 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 school programs.

Graduate

The Graduate School offers a program leading to the Master of Fine Arts (MFA) with emphases in ceramics, painting, printmaking and sculpture; the Master of Arts (MA) in art education and communication/theatre; a Master of Music Education (MME) with emphases in elementary music, instrumental music, choral music and music in special education; and a Master of Music (MM) with emphases in history/literature, performance, piano pedagogy and theory-composition.

For information concerning requirements for entrance and curricula, consult The Wichita State University Graduate Bulletin.

Special Academic Area

Cooperative Education

The College of Fine Arts participates in the University Cooperative Education program. The program is designed to provide relevant paid employment experiences that integrate and complement the students' academic programs. Degree credit is awarded. Students are placed in a variety of positions including education and business settings in both music and art disciplines. For further information contact the fine arts coordinator in the Cooperative Education office.

Policies

Admission

All entering freshmen are enrolled in University College. Upon completing 24 semester hours of specified courses with a minimum grade point average of 2.000, students are eligible to enroll in the Schools of Art and Design, Music and Performing Arts.

Transfer students may enroll in the College of Fine Arts if their transcripts indicate they have completed a minimum of 24 semester hours with a minimum grade point average of 2.000 (C). Students with a grade average of at least 1.700, but less than 2.000, may petition for admittance. Transfer students who do not meet the minimum requirements of 24 semester hours and a grade point average of 2.000 are enrolled in University College.

Probation and Dismissal

Students are expected to make satisfactory progress in their studies. A student who fails to do so may be placed on probation at any time and ultimately dismissed from the University.

Students are required to maintain an overall WSU grade point average of at least 2.000. Students enrolled in either the music education or art education programs must have a cumulative grade point average of 2.500 prior to enrolling in student teaching.

Students who do not achieve or maintain the required 2.000 grade point average will be placed (or continued) on probation at the conclusion of each semester in which their overall grade point average falls below 2.000. Students on probation are limited to a maximum of 12 credit hours per semester while on probation. Students failing to maintain a current average of 2.000 in each semester in which they are on probation will be dismissed from the University, unless they have not attempted 12 semester hours since the beginning of the probationary period.

Transfer students admitted on probation must complete at least 12 semester hours with a minimum grade point average of 2.000 on work at Wichita State before probation may be lifted. If a grade point average of 2.000 is not achieved for the first attempted 12 hours of Wichita State work, transfer students admitted on probation will be dismissed from the University.

Students who have been dismissed for poor scholarship may be readmitted by the permission of the Curriculum and Policy Committee of their major division in the College of Fine Arts and by the University's Committee on Admissions and Exceptions.

Fine Arts—General Education

Upper-Division Course

301. An Introduction to Entrepreneurship in the Arts. (O). Designed to help students focus on business and marketing aspects of the arts. An examination from the artist's perspective of techniques for launching a career in the arts. Attention will be given to elementary concepts of marketing artistic talents, goal setting, financing, legal issues and public demographics. Prerequisites: junior standing or departmental consent. F 10 301 0 1001

School of Art and Design

The School of Art and Design, a part of the College of Fine Arts, is divided into four programs: art education, art history, graphic design and studio arts—with its four areas of drawing-painting, printmaking, ceramics and sculpture. 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 is designed specifically for undergraduate and graduate students and invitational shows. Under the auspices of the Edwin A. Ulrich Museum of Art in McKnight Art Center, students can view a wide range of exhibitions and hear a variety of visit-
The School of Art and Design offers a Graduation Requirements Bachelor of Fine Arts degree (BFA) in art history, graphic design and studio arts. Candidates for the BFA must complete the specific requirements of the appropriate program. Specific requirements for each of the above areas of specialization are given in the Art Education section of the Catalog.

### Departmental Requirements and Course Listings

**Foundation**

The following courses will be required of all undergraduate art major students effective the fall 1987 semester.

#### Lower-Division Courses

110Q. Foundation Visual Arts. (3). A general orientation to the studio arts, graphic arts, art historical-cultural study, and art education. Lectures and experiential modes of learning will be employed. Course studies the techniques, processes and approaches used in various art professions as well as methods of determining meaning and value as an audience to the works of artists professionals. F 14 110Q 0 0631

136. Foundation Design I. (3). An introduction to design for visual communication. A study of the elements of art and the principles of design relating to formal Gestalt and conceptual organization of the two-dimensional surface. Areas of focus include elements of line, shape, space, texture and value. Instructional process includes lecture, critique and supervised studio practice. F 17 136 1 1009

137. Foundation Design II. (3). A continuation of Foundation Design I with an emphasis on the study of color including color mixing, color organization and a review of the psychological effects of color as used in visual communications. Instructional process includes lecture, critique and supervised studio practice. Prerequisite: Art F 136. F 17 137 1 1009

145. Foundation Drawing I. (3). Introduction to visual arts concepts, vocabulary, tools, materials, basic drawing skills and attitudes through drawing experiences. This course will expose students to perceptual skills and the ability to represent objects in space and organize them into a coherent pictorial statement along with technical and expressive competence with a limited range of media. Structured sketchbook assignments will be given. F 16 145 1 1002

146. Foundation Drawing II. (3). Reinforcement and elaboration of the concepts studied in Foundation Drawing I through introduction of abstraction, use of color, visualization and other strategies for manipulating imagery. Students will apply concepts to problems associated with composition, imaginative reconstructions and idea generation. Structured sketchbook assignments will be given. Prerequisite: Art F 145. F 16 146 1 1002

189. Foundation 3-D Design. (3). Lectures, research and studio methods on the evolutionary role of three-dimensional design in contemporary society utilizing a variety of combination of materials, techniques, forms and concepts. Emphasis will be placed on learning to handle equipment and tools properly. F 16 189 1 1002

240. Foundation Life Drawing. (3). Introduction to drawing the human form with emphasis on critical inquiry and analytical observation. The study of skeletal and muscular structure is included. Students will develop an understanding of the structure of the figure and demonstrate a degree of facility in its representation from observation and from imagination. Structured sketchbook assignments will be given. Lab fee. Prerequisite: Art F 146 and 146. F 16 240 1 1002

### Art Education

The art education area offers a professional program for students interested in teaching art. The art education structured program prepares majors to teach and supervise at various educational levels. All majors are required to specialize in a studio arts, graphic design or art history area of emphasis.

#### Outline of Program

A total of 134 hours is required as distributed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Curriculum</td>
<td>64</td>
</tr>
<tr>
<td>Two-dimensional, introductory</td>
<td>15</td>
</tr>
<tr>
<td>Three-dimensional, introductory</td>
<td>12</td>
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<tr>
<td>Art education</td>
<td>22</td>
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<tr>
<td>Art specialization</td>
<td>12</td>
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<tr>
<td>Art history</td>
<td>3</td>
</tr>
<tr>
<td>Education (Instructional Services)</td>
<td>28</td>
</tr>
<tr>
<td>General Education Program</td>
<td>42</td>
</tr>
</tbody>
</table>

#### Student Teaching

Admission into the student teaching semester requires senior standing (90 hours or 200 credit points); a minimum cumulative grade point average of 2.500 and 2.500 in art courses at the time of application for student teaching; a grade of C or better in English composition (Engl. 101 and 102 or its equivalent); a grade of C or better in oral communications; completion of instructional services and art education prerequisites; satisfactory physical examination; and recommendation by the art education program following a formal interview. Admission to teacher education is determined early in the students' program (see College of Education—Admission to Teacher Education Programs). Students must apply for student teaching by the end of the first semester prior to the student teaching year. By the end of the first semester in the student teaching year, the student must have completed Art E. 516 and ISEP 433. Concurrent enrollment in Art E. 516 and ISEP 433 is recommended.

A survey course about exceptional children, reading for secondary students and a multicultural course are included in the teacher certification requirements. Review of course content will be re-
required for transfer of art education credits from other institutions.

Art Minor Outside the College of Fine Arts

Students in the College of Education who wish to minor in art need to complete 18 hours of art. These hours must be distributed as follows: Art F. 110Q and 145, Art E. 310 and 313; one elective studio course; and three hours of Art H. 121G or 122G. This sequence of courses does not constitute requirements for certification in art.

Lower-Division Courses

115. Human Experience and the Arts. (3). Telecourse. Sculpture, architecture, film, drama, music, literature and painting are surveyed. Each art form is examined from four perspectives: historical context, elements of the art, form/meaning and criticism/evaluation. The course contains 30 one-half hour video programs which are coordinated and integrated with the text and study guide. Attendance at periodic Saturday sessions is required. F 14 115 0 0831

150. Art Workshop. (1-3). Repeatable for credit. (The area to be covered is determined at the time the course is offered.) F 14 150 0 0831

210. Visual Arts for the Child. (3). For students without previous art background who plan to teach in the elementary school classroom. Fundamental methods, materials and concepts used to develop art knowledge and skills in the elementary-age levels are studied. F 14 210 0 0831

211. Art Education in the Elementary School. (3). A study of psychology, sensory development and behavior of the elementary-age child, with emphasis on the development of aesthetic and social behavior, as related to art education in the classroom. Prerequisite: upper-division art major. Art E. 210 or instructor's consent. F 14 211 0 0831

220. Art and the Young Child. (1-3). Study of the developmental stages of a child's artmaking, the relationship between art and cognitive growth, the role of the teacher, the social and emotional growth of the child as related to art. Prerequisite: upper-division art major. F 14 220 0 0831

281. Cooperative Education. (1-8). A course that allows students to participate in the cooperative education program. Offered Cr/NCr only. F 14 281 0 0831

Upper-Division Courses

302. Jewelry Design/Construction. (3). Jewelry design and construction with an emphasis on metal working processes (forging, hammering, casting, sawing, cutting, finishing, soldering) with subordinate emphasis on soft jewelry and ceramic processes applicable to jewelry. F 14 302 0 0831

311. Art Education Curriculum in the Elementary School. (3). A study of development characteristics of the elementary-age student and the development of the art program with respect to materials, skills and knowledge content. F 14 311 0 0831

313. Fiber Exploration for the Classroom. (3). The course will focus on fiber experiences appropriate for the classroom on the intermediate or secondary level. Weaving, braiding and twisting techniques that result in a fabric or web will be explored on various kinds of looms. F 14 313 0 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. F 14 414 0 0831

419. Computer Graphics and Art Learning. (3). Course will focus on computer graphic processes and their application to art and art education. Students will learn various procedures for generating computer images with a variety of software and hardware. Students will make application of this new technology to problems of design, art history and art criticism, and will develop curriculum materials for art instruction that employ computer graphic processes. F 14 419 0 0831

481. Cooperative Education. (1-8). A course that allows students to participate in the cooperative education program. Offered Cr/NCr only. F 14 481 0 0831

Courses for Graduate/Undergraduate Credit

510Q. Stimulating Creative Behavior. (3). Topics include theories of creativity, strategies for problem-finding and problem-solving, identifying various external and internal blocks to creativity, testing for creativity, the relationships of creativity, cognition and visual thinking, creative challenges and stimuli. Course emphasizes methods to elicit creative behavior. Repeatable once for credit. F 14 510Q 0 0831

514Q. Aesthetic Inquiry. (3). The course will focus on contemporary trends in aesthetics related to the arts. Students will be expected to write critical observations and interpretations in response to art work. Prerequisite: upper-division art major. F 14 514Q 0 0831

515. Developing Visual Materials for Art Education. (3). A production laboratory that concentrates on the creation 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 0 0831

516. Art Education Practicum. (3). The development of art curriculum materials for secondary levels. Students will enroll in this course the semester before student teaching. Prerequisite: concurrent enrollment in ISEP 433. F 14 516 0 0831

517. Student Teaching Seminar in Art. (1). The objective is to analyze problems encountered in the art classroom during student teaching. Concurrent enrollment in seven hours of student teaching courses is required. Prerequisites: Art E. 516 and departmental approval for student teaching. F 14 517 0 0831


Among the exceptionalities considered will be types of mental retardation; neurological impairment; and emotional, visual, auditory and physical handicaps. F 14 518 0 0831

702. Media Processes for Jewelry Construction. (3). The emphasis in this course is on fabrication techniques, design analysis and function of jewelry designed and produced by students and acknowledged craftsmen. Repeatable once for credit. Prerequisite: Art E. 212, 302 or instructor's consent. F 14 702 0 0831

710. Creative Behavior and Visual Thinking. (3). Identification and application of theories for creative and critical thinking. Emphasizes strategies for problem solving and visual thinking and procedures to implement those strategies. Prerequisite: Student will identify an area for individual investigation. Repeatable once for credit. F 14 710 0 0831

711. Seminar in Art Education: Topic to be Announced. (1-3). Supervised study and research of contemporary issues in art education. Prerequisite: instructor's consent. F 14 711 9 0831

712. Development of Art Understanding in the Educational Program. (3). Readings, observation and evaluation techniques in the development of concepts and materials for art understanding. Repeatable once for credit. Prerequisite: instructor's consent. F 14 712 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

719. Electronic Imaging. (3). Emphasis will be placed on personal and group research and on computer processes and their application to art and art education. Students will generate computer images with a variety of software and hardware. The student will make application of this new technology to problems of design, art history and art criticism, and will develop curriculum materials for art instruction that employ computer graphics procedures. Students will prepare a research paper on selected topics related to computer graphics and art learning. F 14 719 0 0831

720. Art and Early Childhood. (1-3). Emphasizes the cognitive and aesthetic domains of young children and the development of potential for creative and visually expressive behavior as a natural means of a child responding to environmental stimuli. F 14 720 0 0831

750. Art Workshop. (1-3). Repeatable for credit. (The area to be covered is determined at the time the course is offered.) F 14 750 2 0831

Courses for Graduate Students Only

815. Individual Research Problems in Art Education. (1-4). Directed independent study course. Repeatable once for credit for other graduate course work. Repeatable for credit. Prerequisite: instructor's consent. F 14 815 4 0831

816-817. Thesis—Art Education. (1-3). F 14 816 4 0831; F 14 817 4 0831

818-819. Terminal Project—Art Education. (1-3). F 14 818 3 0831; F 14 819 3 0831
### Art History

The art history area offers both major and minor concentrations, as well as professional support courses for art education, graphic design and studio arts programs. Students develop a fundamental knowledge of art within a cultura and historical framework, and a basic understanding of art terms, concepts and theory relevant to all visual arts studies. Advanced levels prepare students for professional pursuit of art history, museum studies, conservation, criticism and college or secondary level teaching.

**Requirements**: A total of 124 hours is required for a major as distributed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Curriculum</td>
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<tr>
<td>Art History</td>
<td>33</td>
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<tr>
<td>Foreign language</td>
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<tr>
<td>Elective</td>
<td>37</td>
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<tr>
<td>General Education Program</td>
<td>41</td>
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**Model Program**

**Freshman**

<table>
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<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Engl 101 and 102, College English I and II</td>
<td>6</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking, or 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Art H. 121G, Survey of Western Art: Paleolithic Through Early Christian</td>
<td>3</td>
</tr>
<tr>
<td>Art H. 122G, Survey of Western Art: Renaissance and Baroque</td>
<td>3</td>
</tr>
<tr>
<td>General education</td>
<td>12</td>
</tr>
<tr>
<td>Elective</td>
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**Sophomore**

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<tr>
<td>Art H. 124, Survey of Western Art: Modern</td>
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<tr>
<td>Art history elective</td>
<td>6</td>
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<tr>
<td>Major foreign language</td>
<td>10</td>
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<td>General education</td>
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<tr>
<td>Elective</td>
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**Junior**

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<tbody>
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<td>Art history electives</td>
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<td>Major foreign language</td>
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<td>General education</td>
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**Senior**

<table>
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<tr>
<td>Art H. 426 Seminar: Techniques of Art History</td>
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</tr>
<tr>
<td>Art history electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>21</td>
</tr>
</tbody>
</table>

### Art History Major Outside the College of Fine Arts

Students from the Fairmont College of Liberal Arts and Sciences who wish 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.

### Art History Minors

All students in or outside the College of Fine Arts may minor in art history by completing 18 hours of course work. These include Art H. 121G, 122G, 123, 124 or approved substitutes and two advanced courses.

### Lower-Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>100. Introduction to Art in the Western World</td>
<td>(3)</td>
</tr>
<tr>
<td>121G. Survey of Western Art: Paleolithic Through Early Christian</td>
<td>(3)</td>
</tr>
<tr>
<td>122G. Survey of Western Art: Renaissance and Baroque</td>
<td>(3)</td>
</tr>
<tr>
<td>123. Survey of Western Art: Medieval</td>
<td>(3)</td>
</tr>
<tr>
<td>124. Survey of Western Art: Modern</td>
<td>(3)</td>
</tr>
<tr>
<td>223. Northern Renaissance</td>
<td>(3)</td>
</tr>
<tr>
<td>281. Cooperative Education</td>
<td>(1-8)</td>
</tr>
<tr>
<td>322. Medieval Art I</td>
<td>(3)</td>
</tr>
<tr>
<td>323. Medieval Art II</td>
<td>(3)</td>
</tr>
</tbody>
</table>

### Upper-Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>324. Northern Baroque</td>
<td>(3)</td>
</tr>
<tr>
<td>325. Art of the Ancient Near East</td>
<td>(3)</td>
</tr>
<tr>
<td>421G. Art of Ancient Greece</td>
<td>(3)</td>
</tr>
<tr>
<td>422. Art of Ancient Rome</td>
<td>(3)</td>
</tr>
<tr>
<td>426. Seminar: Techniques of Art History</td>
<td>(3)</td>
</tr>
<tr>
<td>481. Cooperative Education</td>
<td>(1-8)</td>
</tr>
<tr>
<td>520. Seminar in Art History</td>
<td>(3)</td>
</tr>
<tr>
<td>521Q. Italian Renaissance</td>
<td>(3)</td>
</tr>
<tr>
<td>522. Italian Baroque</td>
<td>(3)</td>
</tr>
<tr>
<td>523. 18th and 19th Century European Art</td>
<td>(3)</td>
</tr>
<tr>
<td>524. 18th and 19th Century American Art</td>
<td>(3)</td>
</tr>
<tr>
<td>525. 20th Century Art Before 1945</td>
<td>(3)</td>
</tr>
<tr>
<td>526. Art Since 1945</td>
<td>(3)</td>
</tr>
<tr>
<td>528. Museum Techniques I</td>
<td>(3)</td>
</tr>
</tbody>
</table>
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

530. The Art of Classical Greece. (3). A study of sculpture and architecture of Greece during the 6th and 7th centuries B.C. F 15 530 0 1003

531. The Art of Hellenistic Greece. (3). A study of the painting, sculpture and architecture of Greece during the Hellenistic period, 4th to 1st centuries B.C. F 15 531 0 1003

532. Independent Study in Art History. (1-3). Work in a specialized area of study of art history. Directed readings and projects. Prerequisite: instructor's consent. F 15 532 0 1003

533. Seminar: Topics in Modern Art. (3). Selected readings and problems in art of the modern era. Course content varies but individual areas are not repeatable for credit. F 15 533 9 1003

721. Introduction to Art History for Teachers I. (3). A historic and stylistic overview of the development of art from prehistoric through medieval times. Emphasizes how art history can be integrated into art and non-art classroom curricula. Specifically designed for early childhood, elementary and secondary teachers. Approved for certification credit for elementary and secondary teachers by KSBOE. F 15 721 0 1003

722. Introduction to Art History for Teachers II. (3). A historic and stylistic overview of the development of art from the Renaissance to the present. Emphasizes how art history can be integrated into art and non-art classroom curricula. Specifically designed for early childhood, elementary and secondary teachers. Approvals for certification credit for elementary and secondary teachers by KSBOE. F 15 722 0 1003

732. Independent Study in Art History. (3). Work in specialized area of the study of art history. Directed readings and projects for graduate students in all disciplines. Prerequisite: instructor's consent. F 15 732 9 1003

Courses for Graduate Students Only

828. Thesis. (2). F 15 828 4 1003

829. Thesis. (2). F 15 829 4 1003

832. Independent Study. (1-3). Individually supervised work in a specialized area of the study of art history. Directed readings, research and projects. Repeatable for credit. Prerequisites: suitable preparation for graduate work in art history (e.g., BA or BFA in art history) and instructor's consent. F 15 832 3 1003

Graphic Design—Commercial Art

The graphic design area offers a professional program for students interested in a career in the field of visual communication. The courses emphasize conceptual and practical problem solving in various media—photography, typography, design and drawing—to develop design skills for communication. Requirements. A minimum total of 126 hours is required for a major as distributed below.

Students with junior standing participate in a Junior Portfolio Review prior to counseling for their senior year.

College of Fine Arts/Graphic Design

The following are the specific requirements for the art curriculum section:

1. Students must fulfill requirements of the foundation program (24 hours): Art F. 110Q, Foundation Visual Arts; Art F. 137, Foundation Design I; Art F. 146, Foundation Drawing I; Art F. 187, Foundation 3D Drawing; Art F. 153, Foundation Life Drawing; Art G. 300, Advanced Typography, 3 hrs.

2. Students must fulfill requirements of the graphic design core as specified (36 hours): Art G. 233, Basic Typographic Design; Art G. 234, Layout and Production Techniques; Art G. 235, Introduction to Graphic Design; Art G. 334, Graphic Design—Production; Art G. 335, Graphic Design Studio I; Art G. 400, Television for Graphic Design; Art G. 430, Television for Graphic Design; Art G. 431E, Design Media Topics—Art and Design; Art G. 481, Cooperative Education—3-D Animation; Art G. 523, Introduction to Art History for Teachers; Art G. 524, Art History Survey I; Art G. 525, Art History Survey II. (3). A historic and stylistic overview of art of the 17th and 18th centuries.

3. A program of 27 hours upper-division concentration must be developed from the courses listed under graphic design electives. The program is developed in consultation with the graphic design faculty.

Graphic design electives: 27 hours: Of the 27 hours, a student must select an 18-hour focus area and complete the requirements. A student can submit a plan directly to a focus area other than those listed below and request approval for its substitution of the requirement. The remaining 9 hours are electives.*

Focus Area I—Design—18 hours

Art G. 300, Advanced Typographic, 3 hrs.
Art G. 438, Color and Design, 3 hrs.
Mkt. 300, Marketing, 3 hrs.

Focus Area II—Illustration—18 hours

Art G. 337, Advertising Illustration, 3 hrs.
Art S. 340, Life Drawing Studio, 3 hrs.
Art S. 345, Intermediate Drawing, 3 hrs.
Art G. 437, Advanced Advertising Illustration, 3 hrs.
Art G. 481, Cooperative Education, 3 hrs.

Focus Area III—Design Media—18 hours

Art G. 431 D, Design Media Topics—Darkroom Techniques, 3 hrs.
Art G. 431E, Design Media Topics—Multi-Media, 3 hrs.
Art G. 530, Seminar in Graphic Design—Advanced TV, 3 hrs.
Art G. 481, Cooperative Education—Video or Photo Placement, 3 hrs.
Thea. 345, Theatre Stage Lighting, 3 hrs.
Thea. 259, Theatre Directing I, 3 hrs.

Focus Area IV—3-Dimensional Design—18 hours

Art G. 339, Advanced Design Structure, 3 hrs.
Art G. 300, Advanced Typography, 3 hrs.
Art G. 481, Cooperative Education—3-D area, 3 hrs.
Thea. 544, Advanced Stagecraft or Theatre, 345, Stage Lighting, 3 hrs.
I.Tec. 325, Woodwork III or I.Tec. 361, Plastic II, 3 hrs. (both require prerequisites)

Electives—9 hours
I.Tec. 590A, Off Set Lithography, 3 hrs. Electives, 6 hrs.

* A grade of C or better is required in Engl. 101 and 102 and Comm. 111 or 112. 30 hours must be "O" or "Q" courses (at least 9 hours "G") and 40 upper-division hours (numbered 300 or higher) are required for graduation.

Students Only

4. Students must participate in a Junior Portfolio Review during the second semester of their junior year.

5. Students must participate in the Senior Terminal Project during their final two semesters.

Model Program

Freshman

Course Hrs.

Engl. 101 and 102 ...................................... 6
Comm. 111 or 112 .................................. 3
Math 109, 110, 111, 112 or 211 .................. 3
Art F. 110Q, Introduction to Art and Design .................. 3
Art F. 136 and 137, Foundation Design I and II ........ 6
### Art F. 145 and 146, Foundation Design

- Drawing I and II

### Art H. 124, Survey of Western Art:

- Modern

### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art F. 189, Foundation 3-D Design</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 233, Typography</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 234, Layout and Production</td>
<td>3</td>
</tr>
<tr>
<td>Art H. 121G, Survey of Western Art: Paleolithic through Early Christian</td>
<td>3</td>
</tr>
<tr>
<td>Art H. 122G, Survey of Western Art: Renaissance and Baroque</td>
<td>3</td>
</tr>
<tr>
<td>Art F. 240, Foundation Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 239, Design Structure</td>
<td>3</td>
</tr>
<tr>
<td>General electives</td>
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</tbody>
</table>

### Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art G. 335 Graphic Design Studio I</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 334, Graphic Design—Production</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 330, Still Photography for Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 331, Film/Video for Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>I. Tec. 590, Offset Lithography</td>
<td>3</td>
</tr>
<tr>
<td>Graphic design electives (300-700 level)</td>
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<tr>
<td>General education</td>
<td>12</td>
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</tbody>
</table>

### Senior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art G. 430, Television for Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 435, Graphic Design Studio II</td>
<td>3</td>
</tr>
<tr>
<td>Graphic design electives (300-700 level)</td>
<td>18</td>
</tr>
<tr>
<td>General education</td>
<td>3</td>
</tr>
<tr>
<td>Art G. 445, Senior Terminal Project</td>
<td>3</td>
</tr>
<tr>
<td>Art H. 523, 524, 525 or 527</td>
<td>3</td>
</tr>
</tbody>
</table>

### Lower-Division Courses

**230. Basic Art Photography.** (3). This course will introduce beginning photo students to basic camera operations, film and paper characteristics, darkroom procedures and a historical overview of the development of photography. Students will have an opportunity to acquire skills and techniques appropriate to photographic materials with an emphasis on the application of fundamentals of design. Course is designed for those not majoring in Graphic Design. F 17 230 1 1009

**231. Basic Photography (Motion Picture).** (3). Introductory course in film production. Lab fee. Nomajors may be required to furnish their own cameras. F 17 231 1 1009

**233. Basic Typography.** (3). A study of type and its application in layout and design. Prerequisites: Art F. 136 and 146. F 17 233 1 1009

**234. Layout and Production Techniques.** (3). Introduction to advertising theory and visual communication. Fundamentals of receptive functions of purpose, copy, art, plans and media in advertising. A study is made of studio practices and art production problems. Prerequisite: Art G. 233. F 17 234 1 1009

**236. Drawing for Commercial Art.** (3). Directed practice in drawing in various media, with emphasis on its application to commercial art. Prerequisite: Graphic design major or instructor's consent. F 17 236 1 1009

**237. Drawing for Commercial Art II.** (3). Directed practice in drawing the figure for editorial and fashion illustration. Prerequisite: Art G. 236. F 17 237 1 1009

**239. Design Structure.** (3). Application of three-dimensional design as a form of visual communication with emphasis on drawing systems, construction techniques, graphic arts processes and the manipulation of paper as a primary medium. Prerequisites: Art F. 136 and Art S. 189. F 17 239 1 1009

**281. Cooperative Education.** (1-8). A course that allows students to participate in the cooperative education program. Graded Cr/NC only. F 17 281 2 1009

### Upper-Division Courses

**300. Advanced Typography.** (3). An investigation of typography and its relationship and application to visual communication. Prerequisites: Art G. 233 and 234. F 17 300 1 1009

**330. Still Photography for Graphic Design.** (3). Introductory course in still photography with a design emphasis. Lab fee. Nonmajors may be required to furnish their own cameras. Prerequisite: Art F. 137 or instructor's consent. F 17 330 1 1009

**331. Film/Video for Graphic Design.** (3). Introductory course in film theory and video with a design emphasis. Lab fee. Nonmajors may be required to furnish their own cameras. Prerequisites: Art F. 137 and Art G. 330 or instructor's consent. F 17 331 1 1009

**334. Graphic Design—Production.** (3). Development of skills necessary to execute finished art for various printing processes. Prerequisites: Art G. 233, 234. F 17 334 1 1009

**335. Graphic Design Studio I.** (3). Development of skills in the generation of visual concepts and techniques for rendering color layouts in various media. Discussion of studio practice and client/vendor relationships. Repeatable for credit. Prerequisites: Art G. 233, 234 and junior standing in graphic design. F 17 335 1 1009

**337. Advertising Illustration.** (3). Development of skills in advertising media and their application to the needs of advertising and product illustration with an emphasis in black and white media. Media and technique suitable for newspaper/magazine reproduction will be examined. Repeatable for credit. Prerequisites: completion of foundation program. F 17 337 1 1009

**339. Advanced Design Structure.** (3). Advanced study of three-dimensional design concepts as applicable to visual communication. Lectures, class work and projects will deal with areas of model-making, package design, signage systems and exhibition design. Repeatable for credit. Prerequisites: Art G. 233 and 239. F 17 339 1 1009

**430. Television for Graphic Design.** (3). Application of design media in the applied arts and television studio. Repeatable for credit. Prerequisites: Art G. 330, 331 and instructor's consent. F 17 430 1 1009

**431. Design Media Topics.** (3). Advanced study of photography, cinematography or television with a design emphasis. Repeatable for credit. Prerequisites: Art G. 330, 331 or instructor's consent. F 17 431 1 1009

**434. Graphic Design Internship.** (3). On-the-job internship in an art studio or advertising agency. Instruction time is divided between arranged location, observation and apprenticeship and weekly seminar period. Written reports of individual research are required in addition to a portfolio of samples produced as an intern. Repeatable for credit. Grade for the course is Gr/NC. Prerequisites: interview, portfolio and junior status. F 17 434 2 1009

**435. Graphic Design Studio II.** (3). A programmatic approach to problem solving. Topics include concept, layout approaches for various projects and skill development for producing portfolio quality work. Prerequisites: Art G. 334, 335 and senior standing in graphic design. F 17 435 1 1009

**437. Advanced Advertising Illustration.** (3). Concentration in editorial illustration with an emphasis in imaginative and creative production of color media and technique will be explored. Repeatable for credit. Prerequisite: Art G. 337. F 17 437 1 1009

**438. Color and Design.** (3). A study of color use in communication design and printing reproduction. Prerequisite: Art G. 234. F 17 438 1 1009

**445. Senior Terminal Project.** (1-3). Supervised independent study. Students in their final two semesters must present a plan of study and complete a design project. Project and plan of study must be approved by the graphic design faculty. Repeatable for credit. Prerequisite: senior standing in graphic design. F 17 445 3 1009

**481. Cooperative Education.** (1-8). A course that allows students to participate in the cooperative education program. Grade for this course is Gr/NC. F 17 481 2 1009

**493. Book Design and Production.** (3). A laboratory course encompassing all facets of the book. Topics of study include: design, type composition, proofreading, illustration, manufacturing, binding materials (cloths, leather, paper and boards), distribution, copyright, royalties and remaining. Students will be responsible for the development and publication of a limited edition book. Prerequisites: Art G. 334 and 337 or consent of instructor. F 17 493 1 1009

### Course for Graduate/Undergraduate Credit

**530. Seminar in Graphic Design.** (3). Supervised study and research. Weekly consultation and reports are required. Repeatable for credit. Prerequisite: departmental consent. F 17 530 9 1009

### Studio Arts

The studio arts area offers programs in ceramics, painting, printmaking, and sculpture for students who wish to spe-
specialize in the visual arts. Students from the Fairmount College of Liberal Arts and Sciences who wish to major in studio arts must complete 39 hours of art. These hours must include Art H. 121G, 122G, nine hours elected from art history courses and 24 hours elected from studio courses. Liberal arts students wishing to minor in studio arts must complete 21 hours of art, including Art H. 121G, 122G and 15 hours of electives.

### General

#### Course for Graduate/Undergraduate Credit

**500. Topics in Visual Arts and Design.**
- **(3).** A coverage of topics of special interest and significance to faculty and students in Studio Art and Design. Content varies in subject matter from one semester to another. Repeatable for credit with departmental consent. F 16 500 1 1002

#### Ceramics

Through their course work, ceramics majors are exposed to their tools: building, throwing, clays and glazes. Students investigate problems of glaze formulation, firing the kiln and characteristics of clays and production.

**Requirements.** A total of 124 hours is required for the major as distributed below.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art curriculum</td>
<td>81</td>
</tr>
<tr>
<td>Foundation</td>
<td>9</td>
</tr>
<tr>
<td>Art history</td>
<td>6</td>
</tr>
<tr>
<td>Ceramics</td>
<td>27</td>
</tr>
<tr>
<td>Drawing</td>
<td>9</td>
</tr>
<tr>
<td>Sculpture</td>
<td>6</td>
</tr>
<tr>
<td>Painting</td>
<td>3</td>
</tr>
<tr>
<td>Printmaking</td>
<td>6</td>
</tr>
<tr>
<td>Art electives</td>
<td>15</td>
</tr>
<tr>
<td>General education program</td>
<td>42</td>
</tr>
</tbody>
</table>

#### Model Program

##### Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>18</td>
</tr>
<tr>
<td>Art F. 145, 146, 189</td>
<td>9</td>
</tr>
<tr>
<td>Art S. 171, Beginning Ceramics</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 272, Handbuilding with Clay</td>
<td>3</td>
</tr>
</tbody>
</table>

##### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>12</td>
</tr>
<tr>
<td>Art S. 260, Printmaking I</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 240, Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 250 or 251, Painting</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 275, Study of Ceramic Materials</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 280, Sculpture</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 370, Ceramics Studio</td>
<td>3</td>
</tr>
</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>General education</td>
<td>12</td>
</tr>
<tr>
<td>Art S. 240, Life Drawing</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 364, Printmaking Ill-Lithography</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 370, Ceramics Studio</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 374, Kiln Methods</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 380, Sculpture Studio</td>
<td>3</td>
</tr>
<tr>
<td>Art S. 570, Advanced Ceramics Studio</td>
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</table>

**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art history</td>
<td>6</td>
</tr>
<tr>
<td>Art S. 345, Intermediate Drawing</td>
<td>3</td>
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<tr>
<td>Art S. 570, Advanced Ceramics Studio</td>
<td>6</td>
</tr>
<tr>
<td>Art electives</td>
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</tbody>
</table>

#### Lower-Division Courses

**171. Beginning Ceramics.** (3).
- This course is an introduction to throwing. The aspects of forming, trimming, glazing and firing will be addressed. There will be an emphasis on acquiring the skills to make a variety of forms from pitchers to covered jars. There will be group critiques and slides shown periodically. No credit given toward a major in studio arts. F 16 171 1 1009

**170. Intermediate Ceramics Studio.**
- **(3).** Experience in handbuilding, wheel throwing, glazing methods. Lecture periods involve general knowledge of clays, glazes, kilns and historical and contemporary pottery. Repeatable for credit. F 16 270 1 1009

**272. Handbuilding with Clay.**
- **(3).** Various handbuilding techniques will be used in the context of the vessels, the figure and architecture or wall reliefs. The creative use of clay will be emphasized to make a personal statement. Various surface treatments and firing techniques will be explored. Issues of content and one's ideas will be emphasized. Required for upper-level courses. Prerequisites: Art F. 189 and Art S. 270, or departmental consent for nonmajors. F 16 272 1 1009

**275. Study of Ceramic Materials I.**
- **(3).** Lab fee. Lectures and research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Prerequisites: Art F. 189 and Art S. 270, or departmental consent for nonmajors. F 16 275 0 1009

**Upper-Division Courses**

**370. Ceramics Studio.**
- **(3).** This course is designed to expose students to new possibilities in throwing or handbuilding. Throwers will confront problems of teapots, two-foot vases and platters; handbuilders will pursue a personal direction. Both will have a required slip casting assignment. Emphasis will be on stripping and making a personal statement in clay. There will also be an exchange of ideas to help facilitate one's personal statement. The course is designed to be taken twice and is repeatable for credit. Prerequisites: completion of foundation program and Art S. 270. F 16 370 1 1009

**374. Kiln Methods.**
- **(3).** The study of kiln design and construction with research in the area of refractory materials. Reading assignments, notebook and laboratory research are included. Prerequisites: completion of foundation program and Art S. 370. F 16 374 1 1009

### Courses for Graduate/Undergraduate Credit

**570. Advanced Ceramics Studio.**
- **(3).** Lab fee. Advanced studio problems involving forming methods, glaze formulation and firing procedures. Lecture periods are held involving advanced studies of ceramic materials and glaze formulation. Repeatable for credit. Prerequisite: Art S. 370. F 16 570 1 1009

**574. Advanced Study of Kiln Methods.**
- **(3).** Advanced study of kiln design and construction with research in the area of refractory materials. Reading assignments, notebook and laboratory work are required. Prerequisite: Art S. 374. F 16 574 1 1009

**575. Study of Ceramic Materials II.**
- **(3).** Lab fee. Lectures and research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Prerequisites: Art S. 275 and 370. F 16 575 0 1009

**576. Study of Ceramic Glazes II.**
- **(3).** Lab fee. The study of glaze formulation and the color and crystalline effects of oxides on base glazes. Notebook, formulation records and laboratory work required. Prerequisite: Art S. 575. F 16 576 1 1009

**774. Advanced Study of Kiln Methods.**
- **(3).** Advanced study of kiln design and construction with research in the area of refractory materials. Prerequisite: instructor's consent. F 16 774 1 1009

### Courses for Graduate Students Only

**800. Seminar in Art Topics.**
- **(3).** Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

**870. Special Problems in Ceramics.**
- **(1-5).** Research in advanced problems in ceramics. Repeatable for credit. F 16 870 3 1009

**875. Advanced Research of Ceramic Materials.**
- **(3).** Lectures and advanced research covering clays, glazes and refractory materials. Reading assignments are made concerning physical and chemical characteristics of pottery materials. Notebook and outside lab work 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: Art S. 875. F 16 876 4 1009

**879-879. Terminal Project—Ceramics.**
- **(2, 3 or 5; 3 or 5).** F 16 879 4 1009; F 16 879 4 1009
Painting

The painting program thoroughly prepares students in painting and allows them to progress through a structured regimen which leads to the development of their own personal styles. 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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</thead>
<tbody>
<tr>
<td>Art curriculum</td>
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<td>Foundation</td>
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<td>Ceramics</td>
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<td>Sculpture</td>
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<tr>
<td>Art electives</td>
<td>9</td>
</tr>
<tr>
<td>General education program</td>
<td>43</td>
</tr>
</tbody>
</table>

Model Program

Freshman

Course | Hrs.
-------|------
Art F. 110Q, Foundation Visual Arts | 3
Art F. 136, Foundation Design I | 3
Art F. 137, Foundation Design II | 3
Art F. 145, Foundation Drawing I | 3
Art F. 146, Foundation Drawing II | 3
Art F. 189, Foundation 3-D Design | 3
Art H. 124, Survey of Western Art—Modern | 3
Art S. 250, Oil Painting | 3

Sophomore

Course | Hrs.
-------|------
General education | 12
Art F. 240, Foundation Life Drawing | 3
Art S. 260, Printmaking | 3
Art S. 345, Intermediate Drawing | 3
Art S. 350, Painting Studio | 6
Painting elective (Art S. 251 or 252) | 3

Junior

Course | Hrs.
-------|------
General education | 9
Art S. 272, Handbuilding with Clay | 3
Art S. 280, Sculpture | 3
Art S. 340, Life Drawing Studio | 3
Art S. 350, Painting Studio | 6
Art S. 364, Printmaking III—Lithography | 3
Art elective (300+ or 350+) | 3

Senior

Course | Hrs.
-------|------
General education | 12
Art S. 545, Advanced Drawing Studio | 3
Art S. 550, Advanced Painting Studio | 6

Art curriculum | 61
Foundation | 21
Art history | 6
Painting | 24
Drawing | 9
Printmaking | 6
Ceramics | 3
Sculpture | 3
Art electives | 9

General education program | 43

Art history (300+) | 3
Art elective (300+) | 6

Drawing

Drawing is the attendant discipline of the four major programs of the studio arts—painting, printmaking, sculpture and ceramics—as well as the areas of graphic design and art education.

Lower-Division Courses

145. Basic Drawing I. (3). Basic Drawing I focuses on the perception and the representation of space, light, forms and their proportions and surface topography. The course also deals with media techniques, eye-hand coordination and perspective. F 16 145 1 1002

146. Drawing II. (3). Drawing II develops fundamental principles and techniques. Prerequisites: Art S. 145, Art F. 136 and 137, or departmental consent for nonmajors. F 16 146 1 1002

240. Life Drawing. (3). Lab fee. Drawing from life with emphasis on figure construction. Prerequisites: Art S. 145, F 16 240 1 1002

250. Oil Painting. (3). Emphasis on the aesthetics and technical aspects of oil painting. F 16 250 1 1002

251. Watercolor Painting. (3). Emphasis on the technical aspects of watercolor painting. F 16 251 1 1002

252. Acrylic Painting. (3). Emphasis on the technical aspects of acrylic painting. F 16 252 1 1002

Art elective (300+ or 350+) | 3

Upper-Division Courses

340. Life Drawing Studio. (3). Lab fee. Emphasis on individual development, figurative observation and interpretation. Repeatable for credit. Prerequisite: completion of foundation program. F 16 340 1 1002

345. Intermediate Drawing. (3). Drawing projects, figurative and abstract. F 16 345 1 1002

350. Painting Studio. (3). Emphasis on in-depth study of the painting process. F 16 350 1 1002

Courses for Graduate/Undergraduate Credit

545. Advanced Drawing Studio. (1-3). A professional emphasis on technical and aesthetic development of drawing. Art S. 340 and 345, F 16 545 1 1002

549. Independent Study in Drawing. (3). A professional emphasis on technical or aesthetic research in the drawing area. Prerequisites: departmental consent. F 16 549 1 1009

749. Independent Study in Drawing. (3). A professional emphasis on technical or aesthetic research in the drawing area. Prerequisites: departmental consent. F 16 749 1 1009

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

840. Special Problems in Life Drawing. (1 or 3). Advanced study. Sketchbooks and/or portfolio required. Repeatable for credit. F 16 840 3 1002

445. Special Problems in Drawing. (1-3). Advanced study in various areas. F 16 445 3 1002

Painting Lower-Division Courses

250. Oil Painting. (3). Emphasis on individual development, technical and aesthetic aspects of oil painting. F 16 250 1 1002

251. Watercolor Painting. (3). Emphasis on technical aspects of watercolor painting. F 16 251 1 1002

252. Acrylic Painting. (3). Emphasis on the technical aspects of acrylic painting. F 16 252 1 1002

Courses for Graduate Students Only

550. Advanced Painting Studio. (1-3). Designed for the professionally oriented student. F 16 550 1 1002

551. Advanced Watercolor Studio. (3). Sketchbooks and/or portfolio required. F 16 551 1 1002

553. Independent Study in Painting. (3). A professional emphasis on technical or aesthetic research in the painting area. Available only for the advanced painting student with consent of instructor. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent. F 16 553 1 1009

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

850. Special Problems in Painting. (1-3). Designed for the professional student with emphasis on the development of individualized style. F 16 850 3 1002

Courses for Graduate Students Only

800. Seminar in Art Topics. (3). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009
with the consent of the drawing/painting faculty. F 16 850 3 1002

858-859. Terminal Project—Painting, (3 or 5; 3 or 5). F 16 858 4 1002; F 16 859 4 1002

Printmaking
The printmaking program gives students a broad base of experience in printmaking. Students encounter two primary disciplines, intaglio and lithographic techniques. Supplemeniting these areas are relief, collagraph, serigraph and combined techniques in both black and white and color. Emphasis is placed upon creativity and students are encouraged to investigate new or traditional methods.

Requirements. A total of 124 hours is required for the major as distributed below:

<table>
<thead>
<tr>
<th>Area</th>
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<th>Hrs.</th>
</tr>
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<td>Sculpture</td>
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<tr>
<td>Art electives</td>
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<td></td>
</tr>
<tr>
<td>General education program</td>
<td>42</td>
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</tr>
</tbody>
</table>

Lower-Division Courses
161. Printmaking for Non-Art Majors. (3). Involves basic intaglio methods, etching, aquatint, soft ground and mixed media techniques, as well as linoleum or wood block techniques embossment and a simplified unit on papermaking. F 16 161 1 1002

260. Printmaking I. (3). An introduction to printmaking. Exploratory work is done in intaglio, collagraph, woodcut or relief techniques. Prerequisites: Art S. 145 and Art F. 136; departmental consent for nonmajors. F 16 260 1 1002

262. Printmaking II. (1-3). Basic intaglio methods (etching, engraving, soft ground, aquatint and mixed techniques). Second semester includes color printing in intaglio, collagraph or mixed techniques. Repeatable for credit one semester. Prerequisite: Art S. 145, 260 and Art F. 136, or departmental consent for nonmajors. F 16 262 1 1002

265. The Techniques and Materials of Printmaking. (2-3). Lecture, assigned reading and reports on tools, materials, methods and origins of basic printmaking techniques, including woodcut, relief, intaglio, lithographic collagraph and color printing. Prerequisites: completion of foundation program and Art S. 260, or departmental consent for nonmajors. F 16 265 1 1002

Upper-Division Courses
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. Prerequisites: completion of foundation program and SA 260. F 16 364 1 1002

365. Basic Screenprinting and Papermaking I. (3). Part I introduces basic screenprint technology (stencil-block out) and resists, as well as basic photomechanical methods. Multicolor printing will be emphasized. Second part involves basic papermaking methods (sheet forming and paper cast from a mold). Prerequisites: completion of foundation program and Art S. 260. F 16 365 1 1009

Courses for Graduate/Undergraduate Credit
560. Advanced Printmaking Studio—Intaglio. (1-3). Intaglio, collagraph and mixed techniques. For the student interested in professional printmaking, the course offers specialization in color printing or black and white. Repeatable for credit. Prerequisites: Art S. 260, 262 and 364. F 16 560 1 1002

561. Advanced Printmaking Studio—Lithography. (1-3). Lithography, black and white. The second semester includes color printing in lithography and combined techniques. Repeatable for credit. Prerequisites: Art S. 260, 262 and 364. F 16 561 1 1002

565. Independent Study in Printmaking. (3). A professional emphasis on technical and aesthetic research in the printmaking area. Available only for the advanced printmaking student with consent of instructor. Statement of intent must be submitted for faculty approval before registration. Prerequisite: departmental consent. F 16 565 1 1009

765. The Techniques and Materials of Printmaking. (3). Lecture, assigned reading and reports on the tools, materials, methods and origins of basic printmaking techniques, including woodcut, relief, intaglio, lithographic collagraph and color printing. Special art research project required in addition to assigned reading and reports. Prerequisite: six hours of printmaking. F 16 765 1 1002

Courses for Graduate Students Only
860. Special Problems in Printmaking—Intaglio. (1, 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. Repeatable for credit. F 16 860 1 1002

862 & 863. Special Problems in Printmaking—Lithography. (1, 3, 5 or 5). Advanced printmaking on an individual basis. Encouragement is given to investigation combined with a craftsman-like approach. Included are lithography and allied techniques, black and white and color. Repeatable for credit. F 16 862 1 1002 & F 16 863 1 1002

868-869. Terminal Project—Printmaking. (3 or 5; 3 or 5). F 16 868 1 1002; F 16 869 1 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:

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<tr>
<td>General education program</td>
<td>42</td>
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</tr>
</tbody>
</table>

Model Program
Freshman
Course
General education | 18 |
Art F. 145, 146, 189 | 9 |
Art S. 260, Printmaking I | 3 |
Art S. 250, Oil Painting | 3 |
Art S. 240, Life Drawing | 3 |
Art S. 251, Watercolor Painting | 3 |
Art S. 262, Printmaking II | 6 |
Art S. 280, Sculpture | 3 |
Art S. 364, Printmaking III | 3 |

Sophomore
Course
General education | 12 |
Art S. 240, Life Drawing | 3 |
Art S. 251, Watercolor Painting | 3 |
Art S. 262, Printmaking I | 3 |
Art S. 280, Sculpture | 3 |
Art S. 364, Printmaking III | 3 |

Junior
Course
General education | 12 |
Art S. 240, Life Drawing | 3 |
Art S. 272, Handbuilding with Clay | 3 |
Art S. 340, Life Drawing Studio | 3 |
Art S. 364, Printmaking III | 3 |
Art S. 561, Advanced Printmaking Studio | 3 |
Art elective | 3 |

Senior
Course
Art history electives | 6 |
Art S. 545, Advanced Drawing Studio | 3 |
Art S. 561, Advanced Printmaking Studio | 3 |
Art electives | 15 |

Model Program
Freshman
Course
General education | 12 |
Art F. 110Q, Foundation Visual Arts | 3 |
Art H. '24, Survey of Western Art-Modern | 3 |
Art F. 136, Foundation Design I | 3 |
Art F. 137, Foundation Design II | 3 |
Art F. 145, Foundation Drawing I 3
Art F. 146, Foundation Drawing II 3
Art F. 189, Foundation 3-D Design 3

Sophomore

Course                  Hrs.          
General education       12
Art F. 240, Foundation Life Drawing            3
Art S. 260, Printmaking I 3
Art S. 280, Sculpture    3
Art S. 340, Life Drawing Studio 3
Art S. 380, Sculpture Studio 3
Art S. 381, Cast Sculpture Studio 3

Art S. 364, Printmaking III—Lithography 3
Art S. 380, Sculpture Studio 3
Art elective (300+) 3
Drawing elective (Art S. 340 or 345) 3
Painting elective (Art S. 250 or 251) 3
Sculpture elective (300+) 3

Junior

Course                  Hrs.          
General education       10
Art S. 272, Handbuilding With Clay 3
Art S. 364, Printmaking III—Lithography 3
Art S. 380, Sculpture Studio 3
Art elective (300+) 3
Drawing elective (Art S. 340 or 345) 3
Painting elective (Art S. 250 or 251) 3
Sculpture elective (300+) 3

Senior

Course                  Hrs.          
General education       9
Art S. 545, Advanced Drawing Studio 3
Art S. 580, Advanced Sculpture Studio 3
Art electives (300+) 6
Art history (300+) 6
Sculpture elective (300+) 3

Lower-Division Course

280. Sculpture. (3). An introduction to sculptural techniques in welded steel, assemblage, kinetics and optics. Prerequisite: Art F. 145 and 189. F 16 280 1 1002

Upper-Division Courses

380. Sculpture Studio. (1-3). Special emphasis on the main approaches to sculpture. Stress is placed on the form, concept and construction of sculpture. Carving techniques in wood, stone and/or plastic are included, as are construction and assemblage techniques selected from wood, plastic, metal (welded, brazed, riveted, etc.) and/or combined materials. Repeatable for credit. Prerequisites: completion of foundation program and Art S. 280. F 16 380 1 1002

381. Cast Sculpture Studio. (3). Casting techniques for bronze and aluminum sculpture. Plaster investment, CO2, set sand, foam vaporization and vacuum cast shell molds are used to develop individual and unique approaches to cast sculpture. Prerequisites: completion of foundation program and Art S. 280. F 16 381 1 1002

Courses for Graduate/Undergraduate Credit

580. Advanced Sculpture Studio. (1-3). Sculpture in any medium, with an emphasis on individual development and creativity. Repeatable for credit. Prerequisite: Art S. 380. F 16 580 1 1002

582. Advanced Handbuilding Techniques in Clay. (3). Advanced studio problems involving sculptural handbuilding forming methods, glaze and surface formulation and firing procedures. Lectures and research on advanced studies of the role of clay sculpture in contemporary society. Prerequisite: Art S. 380. F 16 582 1 1009

585. Independent Study in Sculpture. (3). A professional emphasis on technical or aesthetic research in the sculpture area. Prerequisite: junior standing or instructor's consent. F 16 585 1 1009

785. Independent Study in Sculpture. (3). A professional emphasis on technical or aesthetic research in sculpture. Prerequisite: instructor's consent. F 16 785 1 1009

Courses for Graduate Students Only

800. Seminar in Art Topics. (1, 3 or 5). Designed to explore areas of common interest in the arts. Supervised study, research and discussion. Repeatable for credit. F 16 800 9 1009

880. Special Problems in Sculpture. (3 or 5). Advanced sculpture with emphasis on experimentation and high quality work on an individual basis. Special projects in casting, architectural sculpture, mixed media or new materials and techniques are stressed. Repeatable for credit. F 16 880 3 1002

888-889. Terminal Project—Sculpture. (3 or 5; 3 or 5). F 16 888 4 1002; F 16 889 4 1002

School of Music

The School of Music, which includes curriculum areas of music education, musicology/composition, keyboard, strings, voice and winds/percussion, offers courses, programs and curricula designed to train and educate serious music students who are planning careers in the music profession. In addition, the school’s offerings allow students in other colleges to gain an understanding of music as a humanistic study. Recitals by students, faculty and guests augment the overall community programs in the fine arts.

Students in the School of Music enjoy the use of extensive facilities in the Duerksen Fine Arts Center; these include the Lewis and Selma Miller Concert Hall and Wiedemann Hall, constructed in 1986, which houses the first Marcussen organ in North America.

Polices

Proficiency Examinations

Students eligible for University enrollment may enter a music degree program. However, majors in music must demonstrate their performance ability on a minimum of one instrument or in voice. After their initial registration, students have their proficiency judged by their major professor; thereafter, they must perform for a faculty jury each semester to determine their proficiency level and progress. Semester proficiency cards, on which progress is recorded, are maintained for each student.

All music majors must pass a piano proficiency examination. Entering students majoring in music whose background indicates that they are competent in the area of piano may pass the requirement by special examination. Students who have not satisfied all piano proficiency requirements must enroll in class piano until they meet those requirements. Transfer students who submit proof of the completion of a comparable piano proficiency examination by official transcript or letter from their former dean are exempt from this requirement.

All proficiency examinations must be passed before students are allowed to student teach.

Applied Music

Instruction is given in applied media to develop musicianship, performance skills and reading knowledge of music literature. Specific requirements for each level are set by the individual applied areas.

Students other than majors pursuing a music degree must take two semester hour enrollments in appropriate nonmajor categories (see Schedule of Courses). This will provide a 30-minute lesson per week.

For one semester hour of credit, music majors studying secondary instruments receive a one-half-hour lesson each week with a minimum of five hours of practice required per week.

For two semester hours of credit, (majors and special music students only), students receive either (1) a one-half-hour private lesson each week and a one-hour class each week or (2) a one-half-hour lesson per week or other equivalent arrangements at the option of the instructor. Students are expected to practice a minimum of ten hours each week.

For four semester hours of credit, (performance majors and special music students only), students receive two one-half-hour lessons and a one-hour class lesson each week or other equivalent arrangements at the option of the instructor.
lent 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, Mus. A. 112 (nonmajors), 231 and 232; juniors and seniors, Mus. A. 112 (nonmajors) 431, 432 and 434*; and graduates, Mus. A. 712 (nonmajors), 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.

* Performance majors or designated students only may enroll in 434 or 734.

Recitals

All music majors are required to enroll in five semesters of recital. Students fulfill four of these semesters by enrolling in Mus. P. 050, Recital, and attending a minimum of 14 specified recitals and concerts sponsored by the School of Music. The students’ performance of the senior recital fulfills their fifth semester recital requirement; they must be enrolled in Recital (Mus. P. 050 for BME and BM theory-composition majors or Mus. P. 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, or (3) whether the program should be performed before a faculty jury in lieu of a public recital.

Further recital specifications are found under graduation requirements for Bachelor of Music in Theory-Composition.

No graduating senior may prepare or perform the graduation recital without the guidance of a School of Music faculty member. In the event the required applied music credit hours have been earned prior to the recital presentation, students are expected to continue to elect the applied major through the preparation for and the performance of the recital.

Graduation Requirements

Bachelor of Music Requirements

Students receiving the BM choose either a performing medium (piano, organ, voice, strings, wind or percussion) or theory-composition as their major area of concentration.

The general graduation requirements of the University must be met as described in the Catalog under Academic Information—Requirements for Graduation. In addition, certain music requirements must be met for the different areas in the School of Music.

Bachelor of Music in Theory-Composition

Area Hrs.
Applied Music .............. 20
Chief performing medium (piano, organ) .......... 16
Other performing media ... 4
Keyboard performing medium (nonkeyboard) .... 8
Other performing media ... 4
Theory and Composition .... 40
Mus. C. 127Q-129, 128-130, 227-229, 228-239, 259-260, 523, 526, 529, 560, 561, 641, 659, 660, 661, 671 and 672
History and Literature of Music .... 12
Mus. C. 113Q, 334Q, 335Q and three hours of upper-division electives in music history or literature
Conducting ................. 4
Mus. P. 217 or 218, 651 or 691
Ensembles * ................. 10
Electives (music or nonmusic courses) ............ 7
Recital attendance (four semesters plus senior recital) ....
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

Area Hrs.
Applied Music .............. 28
Chief performing medium .... 24
Second performing medium (four semesters) .... 4
Theory ...................... 22
Mus. C. 127Q-129, 128-130, 227-229, 228-239, 523, 526, 651 or 661 and 641, 645, 643 or 345
History and Literature of Music .... 12
Must include Mus. C. 113Q, 334Q and 335Q
Conducting ................. 4
Mus. P. 217 or 218 and 651 or 691
Ensembles * ................. 10
Electives (six hours of music electives required—to include Mus. P. 680 for woodwind majors; Mus. P. 681 for brass majors; Mus. P. 682 for percussion majors; Mus. P. 620 for violin and viola majors) ......... 11
Senior Recital (Mus. P. 400) .... 1
Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050.) ....

* See degree checklists for specified ensembles.

Bachelor of Music in Performance—Keyboard Major

Area Hrs.
All Programs ..............
Applied Music .............. 4
Chief performing medium (see specific major, below)
Second performing medium ....
Theory ...................... 22
Mus. C. 127Q-129, 128-130, 227-229, 228-239, 523, 561 or 661, 643, 645, 643 or 645
History and Literature of Music ....
Mus. C. 113Q, 334Q and 335Q
Conducting ................. 4
Mus. P. 217 or 218 and 651 or 691
Ensembles (see specific major, below)
Recital Attendance
Mus. P. 050 (enrollment for four semesters in a specified number of recitals)

Piano Proficiency Exam
Specific Keyboard Major Program Requirements

Piano Performance Major
Applied Piano .................................. 24
Mus. P. 250 and 251, Applied Concerto ........... 4
Mus. P. 107-407, Piano Repertoire ................. 6
Mus. P. 580, Piano Pedagogy ...................... 2
Mus. C. 782 and 783, Piano Literature ............ 4
Ensembles ......................................... 8
(four semesters of accompanying required for all Bachelor of Music piano majors and 4 hours of appropriate ensemble. Keyboard scholarship recipients are required to enroll in accompanying each semester they hold a scholarship.)
Mus. P. 300, Junior Recital (piano) ................ 1
Mus. P. 400, Senior Recital (piano) ................ 1
Electives ......................................... 2

Piano Accompanying Major
Applied Piano .................................. 16
Mus. P. 223, 224, 423 and 424, Applied Piano Accompanying .......... 12
Mus. P. 121, 122, 221, 222, Ital., Engls., Fren., Germ. Diction ....... 4
Mus. P. 107-307, Piano Repertoire ................ 4
Mus. P. 580, Piano Pedagogy ...................... 2
Mus. C. 726, Voice Literature ..................... 3
Mus. C. 685, String Literature ..................... 2
Ensembles ......................................... 3
(four semesters of accompanying required for all Bachelor of Music piano majors and 4 hours of appropriate ensemble. Keyboard scholarship recipients are required to enroll in accompanying each semester they hold a scholarship.)
Mus. P. 300, Junior Recital (piano) ................ 1
Mus. P. 450 and 451, Senior Accompanying Recital ............ 2

Piano Pedagogy Major
Applied Piano .................................. 24
Mus. P. 107-407, Piano Repertoire ................ 6
Mus. P. 580, Piano Pedagogy ...................... 2
Mus. P. 581, Piano Teaching Materials ............. 2
Mus. C. 782 and 783, Piano Literature ............ 4
Mus. P. 790, Special Topics (designated) ........... 4
Ensembles ......................................... 8
(four semesters of accompanying required for all Bachelor of Music piano majors and 4 hours of appropriate ensemble. Keyboard scholarship recipients are required to enroll in accompanying each semester they hold a scholarship.)
Mus. P. 400, Senior Recital (piano) ................ 1
Elective ......................................... 1
Organ Major
Applied Organ ................................... 24
Mus. C. 597 and 589, Organ Literature and Practice ....... 2
Ensembles ......................................... 10
(keyboard scholarship recipients are required to enroll in accompanying each semester they hold a scholarship.)
Mus. P. 400, Senior Recital (organ) ............... 1
Electives ......................................... 15

Bachelor of Music in Performance—Vocal Major

Area Hrs.
Applied Music ................................... 26
Voice ............................................. 4
Piano (two semesters) ......................... 2
Study in another instrument may be substituted if student meets piano proficiency level
Theory ........................................... 18
Mus. C. 127Q-129, 128-130, 227-229, 228-230 and 523 or 661
History and Literature of Music ............... 9
Mus. C. 113Q, 334Q and 335Q
Conducting ....................................... 2
Mus. P. 218
Voice Pedagogy and Repertoire ................. 9
Mus. P. 121, 122, 221, 222, 625 and Mus. C. 726
Ensembles (see degree sheets for specified ensembles) ............ 10
Electives (in upper-division theory, conducting or choral materials) .... 10
Senior Recital (Mus. P. 400) ................... 1
Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050)
Foreign Languages (5 hours in each language or 10 hours in one of two languages) ........... 10
Fren. 111-112, Germ. 111-112

Bachelor of Music in Performance with Minor in Business

Area Hrs.
Applied Music ................................... 20
Chief performing medium ....................... 16
Second performing medium (four semesters) .... 4
Theory ........................................... 20
Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645 or 643 or 345
History and Literature of Music ............... 11
Must include Mus. C. 113Q, 334Q and 335Q
Conducting ....................................... 4
Mus. P. 217 or 218 and 651 or 691
Ensembles (see degree sheets for specified ensembles) ............ 8 or 10
Electives ......................................... 5
Vocal majors require Mus. P. 121, 221, 222. Piano majors require Mus. P. 580
Senior Recital (Mus. P. 400) ................... 1
Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050)

Business Requirements ......................... 30
Econ. 201Q, 202Q (6); Acct. 210, 220 (6); and any three of the following four courses: Mgmt. 360 (3); Fin. 340 (3); Mkt. 300 (3); DS 350 (3). Also 9 hours of upper-division electives.

Bachelor of Music in Performance with Minor in Theatre

Area Hrs.
Applied Music ................................... 20
Chief performing medium ....................... 16
Second performing medium (four semesters) .... 4
Theory ........................................... 20
Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645 or 345
History and Literature of Music ............... 11
Must include Mus. C. 113Q, 334Q and 335Q
Conducting ....................................... 4
Mus. P. 217 or 218 and 651 or 691
Ensembles (see degree sheets for specified ensembles) ............ 8 or 10
Electives ......................................... 5
Vocal majors require Mus. P. 121, 221, 222. Piano majors require Mus. P. 580
Senior Recital (Mus. P. 400) ................... 1
Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050)
Theatre Requirements .............. 24
Thea. 180 (1); 221Q (3); 243Q (3); 244 (3); 253 (3); 924 (1); 259 (3); 380 (1); 623Q (3); 624Q (3).

Bachelor of Music in Performance with Minor in Journalism (News Editorial Emphasis)

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>20</td>
</tr>
<tr>
<td>Chief performing medium</td>
<td>16</td>
</tr>
<tr>
<td>Second performing medium (four semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Theory</td>
<td>20</td>
</tr>
<tr>
<td>Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645, 643 or 345</td>
<td></td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>11</td>
</tr>
<tr>
<td>Must include Mus. C. 113Q, 334Q and 335Q</td>
<td></td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. P. 217 or 218 and 651 or 691</td>
<td></td>
</tr>
<tr>
<td>Ensembles (for degree sheets for specified ensembles) ... 8 or 10</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>5</td>
</tr>
<tr>
<td>Vocal majors require Mus. P. 121, 221, 222. Piano majors require Mus. P. 580</td>
<td></td>
</tr>
<tr>
<td>Senior Recital (Mus. P. 400) ... 1</td>
<td></td>
</tr>
<tr>
<td>Recital attendance (specified number of recitals per semester for four semesters, Mus. P. 050)</td>
<td></td>
</tr>
<tr>
<td>Journalism Requirements</td>
<td>21</td>
</tr>
<tr>
<td>Comm. 115Q (3); 200 (3); 300 (3); 500 (3); 550 (3); 560 (3); 690 (3).</td>
<td></td>
</tr>
</tbody>
</table>

Bachelor of Music in Performance with Minor in Journalism (Advertising/Public Relations Emphasis)

<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</td>
<td>16</td>
</tr>
<tr>
<td>Second performing medium (four semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Theory</td>
<td>20</td>
</tr>
<tr>
<td>Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645, 643 or 345</td>
<td></td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>11</td>
</tr>
<tr>
<td>Must include Mus. C. 113Q, 334Q and 335Q</td>
<td></td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. P. 217 or 218 and 651 or 691</td>
<td></td>
</tr>
<tr>
<td>Ensembles (for degree sheets for specified ensembles) ... 8 or 10</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>5</td>
</tr>
<tr>
<td>Vocal majors require Mus. P. 121, 221, 222. Piano majors require Mus. P. 580</td>
<td></td>
</tr>
<tr>
<td>Senior Recital (Mus. P. 400) ... 1</td>
<td></td>
</tr>
</tbody>
</table>

Bachelor of Music in Performance with Minor in Journalism (Broadcasting Emphasis)

<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</td>
<td>16</td>
</tr>
<tr>
<td>Second performing medium (four semesters)</td>
<td>4</td>
</tr>
<tr>
<td>Theory</td>
<td>20</td>
</tr>
<tr>
<td>Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641, 645, 643 or 345</td>
<td></td>
</tr>
<tr>
<td>History and Literature of Music</td>
<td>11</td>
</tr>
<tr>
<td>Must include Mus. C. 113Q, 334Q and 335Q</td>
<td></td>
</tr>
<tr>
<td>Conducting</td>
<td>4</td>
</tr>
<tr>
<td>Mus. P. 217 or 218 and 651 or 691</td>
<td></td>
</tr>
<tr>
<td>Ensembles (for degree sheets for specified ensembles) ... 8 or 10</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>5</td>
</tr>
<tr>
<td>Vocal majors require Mus. P. 121, 221, 222. Piano majors require Mus. P. 580</td>
<td></td>
</tr>
<tr>
<td>Senior Recital (Mus. P. 400) ... 1</td>
<td></td>
</tr>
</tbody>
</table>

Bachelor of Music Education Requirements

Students receiving the BME must meet the state requirements for the secondary three-year certificate and three-year elementary certificate. Students may select from four options within 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.

Student Teaching

Admission into the student teaching semester requires a minimum cumulative grade point average of 2.500; a minimum grade point average of 2.500 in music courses; senior standing (90 hours—200 credit points); a grade of C or better in English composition (Eng. 101 or its equivalent and Eng. 102); a grade of C or better in Comm. 111 or 112; completion of prerequisites in educational psychology, foundations of education and music education methods; successful completion of the piano proficiency exam; successful completion of a physical examination; and a recommendation by the music education area.

Transfer students must satisfy education requirements for prerequisites not taken at Wichita State.

All students must have an application on file with the music education area and receive its approval. Students must file applications with the Director of Music Education.

Graduation Requirements

The following program fulfills both the University requirements for graduation and the Kansas certification requirement and must be taken by all Bachelor of Music Education candidates. In completing the BME program, the student must meet the general education program requirements of the University given in the Academic Information—Requirements for Graduation section of the Catalog.

General Education Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Skills</td>
<td>12</td>
</tr>
<tr>
<td>Engl. 101 and 102</td>
<td>6</td>
</tr>
<tr>
<td>Comm. 111 or 112</td>
<td>3</td>
</tr>
<tr>
<td>Math. 109, 111, 112 or 212</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Fine Arts</td>
<td>9</td>
</tr>
<tr>
<td>Literature required, 3 hrs.;</td>
<td></td>
</tr>
<tr>
<td>Mus. C. 113Q required, 3 hrs.;</td>
<td></td>
</tr>
<tr>
<td>3 hrs. from American studies, art education, art history, foreign languages (excluding basic language courses), history, linguistics, musicology-composition, philosophy or religion</td>
<td></td>
</tr>
</tbody>
</table>
Social and Behavioral Sciences  
Psy. 111Q required, 3 hrs.; 3 hrs. from sociology, anthropology, economics, geography or political science.

Mathematics and Sciences  
Courses in 2 of the following departments: biological sciences, chemistry, geology, mathematics or physics.

Electives (to make a total of 42 hours)  
6 hours required from Mus. C. 334Q and 335Q. Other hours may be taken in any University division (except the student's major area. Special music education majors will elect CDS 111Q.)

### Professional Education Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>24</td>
</tr>
<tr>
<td>IS 233 or 333 and 433</td>
<td>6</td>
</tr>
<tr>
<td>IS 232, 231, 234 and 428</td>
<td>6</td>
</tr>
<tr>
<td>IS 401</td>
<td>3</td>
</tr>
<tr>
<td>IS 456</td>
<td>3</td>
</tr>
<tr>
<td>IS 451*</td>
<td>3</td>
</tr>
<tr>
<td>IS 469*</td>
<td>3</td>
</tr>
</tbody>
</table>

* These courses are 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>18</td>
</tr>
<tr>
<td>Instrumental majors</td>
<td>14</td>
</tr>
<tr>
<td>(chief medium)</td>
<td>2</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>Keyboard majors</td>
<td>14</td>
</tr>
<tr>
<td>(chief medium)</td>
<td>2</td>
</tr>
<tr>
<td>(second instrument)</td>
<td>2</td>
</tr>
<tr>
<td>Electric bass majors</td>
<td>10</td>
</tr>
<tr>
<td>(electric bass)</td>
<td>4</td>
</tr>
<tr>
<td>(string bass)</td>
<td>2</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
</tbody>
</table>

Required for all of the above majors: Mus. E. 341, 1 hr., and 342, 1 hr.

Students must be enrolled in applied music during the semester of their senior recital.

### Additional Courses Required for Vocal (Keyboard) Emphasis

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Music</td>
<td>16</td>
</tr>
<tr>
<td>Vocal majors (voice)</td>
<td>14</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>Keyboard majors</td>
<td>14</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>(Mus. E. 341, 342)</td>
<td>2</td>
</tr>
</tbody>
</table>

Students must be enrolled in applied music during the semester of their senior recital.

### General Music

Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641 or 645 or 643, 691, and Music E. 342, 3 hrs. of music electives for vocal majors; for piano majors, Mus. P. 580 or 581, 307 and 407 required.

Ensembles  
Vocal majors  
Instrumental and piano majors  
(see degree sheets for specified ensembles)

Recital attendance (four semesters plus senior recital-Mus. P. 050)

### Additional Courses Required for Vocal (Keyboard) Emphasis

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocal majors (voice)</td>
<td>14</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>Keyboard majors</td>
<td>14</td>
</tr>
<tr>
<td>(piano)</td>
<td>2</td>
</tr>
<tr>
<td>(Mus. E. 341, 342)</td>
<td>2</td>
</tr>
</tbody>
</table>

Students must be enrolled in applied music during the semester of their senior recital.

### General Music

Mus. C. 127Q-129, 128-130, 227-229, 228-230, 561 or 661, 641 or 645 or 643, 691, and Music E. 342, 3 hrs. of music electives for vocal majors; for piano majors, Mus. P. 580 or 581, 307 and 407 required.

Ensembles  
Vocal majors  
Instrumental and piano majors  
(see degree sheets for specified ensembles)

Recital attendance (four semesters plus senior recital-Mus. P. 050)

### Education Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended: one 600-level IS special course</td>
<td>3</td>
</tr>
<tr>
<td>Music Education Methods</td>
<td>12-16</td>
</tr>
<tr>
<td>Vocal Emphasis-Mus. E. 203, 303, 309, 403, 241, 242</td>
<td></td>
</tr>
<tr>
<td>Instrumental Emphasis-Mus. E. 204, 304, 309, 404, 235, 236, 237, 238, 239, 240, 686</td>
<td></td>
</tr>
<tr>
<td>Additional courses for piano pedagogy majors-Mus. P. 580 (2 hours) and 790 (4 hours.)</td>
<td></td>
</tr>
</tbody>
</table>

### Music Major in Fairmount College of Liberal Arts and Sciences

Students in Fairmount College of Liberal Arts and Sciences who wish to major in music are required to elect 41 hours as specified in the following areas and course listings.

<table>
<thead>
<tr>
<th>Area</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Literature and History</td>
<td>9</td>
</tr>
<tr>
<td>Music History and Theory</td>
<td>9</td>
</tr>
<tr>
<td>Music Theory and History</td>
<td>9</td>
</tr>
<tr>
<td>Conducting, Orchestration and Choral Arranging</td>
<td>4</td>
</tr>
<tr>
<td>Applied Music (four semesters)</td>
<td>4</td>
</tr>
</tbody>
</table>
Music Minor in Fairmount College of Liberal Arts and Sciences

A music minor in Fairmount College of Liberal Arts and Sciences consists of 18 hours selected from the following: Mus. C. 113Q, 127-129, 128-130, 227-229, 228-230, 334Q-336Q, 523; a maximum of four hours of ensembles; and a maximum of two hours (two semesters) in applied music. Students who choose to utilize two hours of applied music must satisfy freshman proficiency requirements.

Music Education

Lower-Division Courses

150. Music Education Workshop. (1-4). Repeatable for credit. F 11 150 2 0832

203. Fundamentals of Vocal Music for Secondary Schools. (3). The teaching of music in the secondary school, consideration of objectives and examination of materials. Designed for students primarily interested in teaching music in secondary schools, the course includes observation in public schools. Includes classroom guitar, choreographing for the choral ensemble and song leading. Prerequisite: music education major or instructor's consent. Grades 6-12. 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. Includes teaching techniques for marching band and jazz ensemble. Prerequisite: music education major or instructor's consent. Grades 7-12. 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 knowledge of the major notes included. Band and orchestra laboratory is included. Grades 4-12. 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. Grades 4-12. 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.) Grades 4-12. 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.) Grades 4-12. F 11 236 0 0832

239. Methods of Teaching Band and Orchestral Instruments (Bass). (1). Procedures and materials for class and private teaching of all brass instruments, emphasizing tone qualities, differences in embouchure and instrumental performance. Grades 4-12. 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. Grades 4-12. F 11 240 0 0832

241. String Rehearsal Methods. (1). String rehearsal techniques and materials for grades 4 through 12. Required of majors on choral/keyboarding program and choral/keyboarding majors on special music education program. F 11 241 0 0832

242. Wind and Percussion Rehearsal Methods. (1). Wind and percussion technique and materials for grades 4 through 12. Required of majors on choral/keyboarding program and choral/keyboarding majors on special music education program. F 11 242 0 0832

248. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complete and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 248 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester: such students need not be concurrently enrolled in any other course. Prerequisite: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered ONCY only. F 11 248 2 0832

Upper-Division Courses

303. Survey of Vocal Music for Elementary Schools. (3). An overview of activities in the elementary general music program. Included are a study of objectives for elementary classes and consideration of materials and methods. Includes autograph, recorder techniques and music theatre for public schools. The course is for students primarily interested in teaching music in the elementary schools. Prerequisite: Mus. E. 203. Grades K-6. F 11 303 0 0832

304. Survey of Instrumental Elementary School Music. (3). A survey of methods and materials in the elementary school instrumental program of instruction. Course is for students primarily interested in teaching instrumental music in the elementary schools. Prerequisite: Mus. E. 204. Grades 4-8. F 11 304 0 0832

309. Survey of Music for Special Education, and Exceptional Children. (3). Discussion of 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. This course satisfies the requirement, effective September 1, 1981, that applicants for initial certification or renewal of secondary and/or elementary certification shall present a survey course or equivalent content from other courses, in the subject area of exceptional children. This prerequisite cannot be concurrently taken with initial certification and certification of music teachers only. Prerequisites: Mus. E. 203 or 204, with instructor's consent. Grades K-12. F 11 309 0 0832

341. Survey of Singing Techniques and Literature. (1). Vocal problems and strategies and the development of sufficient vocal understanding. A course in demonstrating vocal technique. Experience in using the singing voice as a teaching tool. Includes a survey of literature for the solo voice; required for instrumental keyboard and special music education majors. Grades K-12. F 11 341 0 0832

342. Survey of Choral Techniques and Literature. (1). A study of basic techniques of ensembles and examination of literature for large and small ensembles. Includes song leading. Required for music education majors. Prerequisites: one hour of applied voice or Mus. E. 341 and Mus. P. 217 or 218. Grades 6-12. 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 general music program. Prerequisites: Mus. E. 203 and 303 (also 309 for special music education majors). To
be taken during student teaching semester. Grades K-12. F 11 403 0 0832

404A. Advanced Techniques of Instrumental School Music. (1). Consideration of special problems related to preparation for student teaching in instrumental music programs at all levels. Included are audiovisual instructional techniques. Prerequisite: Mus. E. 204 and 304. To be taken during student teaching semester. Grades 4-12. F 11 404 0 0832

481. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester. Such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NoCr only. F 11 481 0 0832

Courses for Graduate/Undergraduate Credit

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 gross and fine motor control of the body through singing, listening, rhythm and creative activities; a survey of available materials; and development of playing, singing and conducting skills. F 11 606 0 0832

611. Music for Special Education. (3). Open to upper-division or graduate students who are developing or practicing as music teachers, classroom teacher or special education teacher. Identification of dysfunctional children and their problems and current theory and practices in special music education are included. This course satisfies the requirement, effective September 1, 1981, that applicants for initial certification or renewal of secondary and/or elementary education shall present a survey course, or equivalent content from other courses, in the subject area of exceptional children. This provision applies to initial certification and recertification of music teachers only. Grades K-12. F 11 611 0 0832

686. Marching Band Techniques. (2). A systematic approach to the marching band with regard to organization, show development, instrumentation, music adaptation, drill construction and script development. Both traditional and drill and corps style marching are taught utilizing manual methods and computer generated graphics. Field observations, films, photographs and live performances by marching bands complement the class syllabus. Required for all instrumental majors. F 11 686 0 0832

732. Music in the Junior High School. (3). Includes administrative structures, the curriculum, adolescent development, teaching as behavior and competencies needed for successful teaching of general and choral music in grades 6-9. F 11 732 0 0832

737A. Advanced Woodwind Techniques. (2). Special problems and techniques in the teaching of woodwind instruments. Current materials and literature are surveyed. Prerequisite: Mus. E. 237 and 238 or equivalent. F 11 737A 0 0832

739A. Advanced Brass Techniques. (2). Special problems and techniques in the teaching of brass instruments. Current materials are surveyed. Prerequisite: Mus. E. 239 or equivalent. F 11 739A 0 0832

740A. Advanced Percussion Techniques. (2). Special problems and techniques in the teaching of percussion instruments. Current materials are surveyed. Prerequisite: Mus. E. 240 or equivalent. F 11 740A 0 0832

750. Music Education Workshop. (1-4). Repeatable for credit. F 11 750 0 0832

781. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 781 may follow one of two scheduling patterns: Parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Cr/NoCr only. F 11 781 0 0832


785. Instrumental Music Organization and Administration. (2). Problems of developing school instrumental music programs. F 11 785 0 0832

790. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent. F 11 790 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 problems and trends in planning and executing a modern program of music supervision. Prerequisite: Mus. E. 831 or instructor's consent. F 11 821 0 0832

822. Advanced Techniques in Special Music Education. (3). A course for the music education special emphasis MME candidates only. Special problems and trends in special music education are studied. An evaluation of materials and techniques and special projects exploring the development of musical understanding in the dysfunctioning child are included. This course satisfies the requirement, effective September 1, 1981, that applicants for initial certification or renewal of secondary and/or elementary certification shall present a survey course, or equivalent content from other courses, in the subject area of exceptional children. This provision applies to initial certification and recertification of music teachers only. Mus. E. 403 or 404. F 11 822 0 0832

823. Special Music Education Practicum. (3). For the music special education emphasis MME candidate only. Supervised teaching is done in special education classrooms. A companion course to Mus. E. 822, this course gives the music special education emphasis MME candidate experience in teaching in special education classrooms. Prerequisite: Mus. E. 822 or concurrent enrollment. F 11 823 0 0832

831. Developing the Child's Musical Understanding. (3). Definition of understandings necessary for the attainment of musical awareness in the child. The exploration of classroom experiences is directed toward the successful development of understanding through the application of basic learning principles. Prerequisite: Mus. E. 403. F 11 831 0 0832


841. Special Project in Music. (1-3). Individualized supervised study or research with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 11 841 0 832

844. Terminal Conducting Project. (2). Individualized supervised project for those electing the conducting option on the instrumental or choral emphases under the MME degree. Prerequisite: instructor and departmental consent. F 11 844 0 0832

845A. Seminar in Instrumental Music Education Literature. (2). Critical analysis of literature for band, orchestra and small ensembles and elementary and secondary schools. Current bibliography is used. Repeatable for credit. F 11 845A 0 832

850. Psychology of Music. (2). An overview of musical behaviors from a psychological perspective. Prerequisites: introductory psychology and human psychoacoustics; melodic, rhythmic and harmonic perception; and major learning theories are related to current trends in music education. F 11 850 0 0832

851. Introduction to Graduate Study. (3). See course listing under musicology-composition department. F 11 851 0 0832

854. Research Seminar in Music Education. (3). A companion course to 165; emphasis on techniques of research. The completion of a major research project is required. Prerequisite: Mus. C. 852. F 11 854 0 0832

871. History and Philosophy of Music Education. (2). A study of historical trends and contemporary philosophers relevant to music education, behavioral objectives and curricular planning. Prerequisite: Mus. E. 851. F 11 871 0 0832

875. Thesis Research. (1-2). F 11 875 4 0832

876. Thesis. (2). F 11 876 4 0832
Music Performance

Applied Music Private Study

112. Applied Music Instruction for Nonmajors. (2). Basic applied instruction for undergraduate students who are not active in a music degree program. May not be used to fulfill music degree requirements. Repeatable for credit. F 12 112 3 1004

231. (1). Only for majors; study on secondary instruments. Basic instruction. Repeatable for credit. Lower division. F 12 231 3 1004

232. (2). For majors only. Repeatable for credit. Lower division. F 12 232 3 1004

431. (1). Only for majors; study on secondary instruments. Repeatable for credit. Upper division. F 12 431 3 1004

432. (2). For majors only. Repeatable for credit. Upper division. F 12 432 3 1004

434. (4). For performance majors only. Repeatable for credit. Upper division. F 12 434 3 1004

712. Applied Music Instruction for Nonmajors. (2). Basic applied instruction for persons who are not active in a music degree program. May not be used to fulfill music degree requirements. Repeatable for credit. F 12 712 3 1004

731. (1). Only for majors; study on secondary instruments. Repeatable for credit. Graduate. F 12 731 3 1004

732. (2). For majors only. Repeatable for credit. Graduate. F 12 732 3 1004

734. (4). For performance majors or students preparing for master's degree recitals only. Repeatable for credit. Graduate. F 12 734 3 1004

Applied Music Class Abbreviations

A Bassoon  
P Piano
B Cello  
R String Bass
C Clarinet  
S Trombone
D Euphonium  
T Trumpet
E Flute  
U Tuba
F French Horn  
V Violin
G Guitar  
W Violin
H Harp  
X Saxophone
I Oboe  
Y Voice
J Percussion  
Z Electric Bass

Applied Music Classes

117J. (2). Guitar class. Beginners. F 12 117J 3 1004

117P. (1). Piano class. Beginning majors. F 12 117P 3 1004

117W. Violin Class for Adult Beginners. (2). Beginning violin class: fundamentals of learning to play violin with emphasis on tone and intonation development; basic techniques for reading (notes and rhythm). May not be applied to music major requirements. Repeatable for credit. F 12 117W 3 1004

117Y. Popular Vocal Styles. (2). Class voice instruction for adults with an emphasis on basic vocal technique and how it can be applied for use in popular styles of singing, including vocal jazz, pop, music theatre, etc. Class will give students an opportunity to explore techniques for developing their own voices and to practice singing in a supportive environment, and will include information via lecture, demonstration, listening to recordings related to stylistic differences in the popular idiom. Intended for nonmusic majors and will not be applicable to music degree requirements. Repeatable. F 12 117Y 3 1004

118J. (2). Guitar class. Intermediate. F 12 118J 3 1004

118P. (1). Piano class. Music majors. F 12 118P 3 1004

119P. (1). Piano class. Piano majors. F 12 119P 3 1004

120P. (2). Piano class. Nonmajors. F 12 120P 3 1004

177W. Violin Class for Adult Beginners. (2). Beginning violin class: fundamentals of learning to play violin with emphasis on tone and intonation development; basic techniques for reading (notes and rhythm). May not be applied to music degree requirements. Repeatable for credit. F 12 177W 3 1004

177Y. Popular Vocal Styles. (2). Class voice instruction for adults with an emphasis on basic vocal technique and how it can be applied for use in popular styles of singing, including vocal jazz, pop, music theatre, etc. Class will give students an opportunity to explore techniques for developing their own voices and to practice singing in a supportive environment, and will include information via lecture, demonstration, listening to recordings related to stylistic differences in the popular idiom. Intended for nonmusic majors and will not be applicable to music degree requirements. Repeatable. F 12 177Y 3 1004

General Performance

Noncredit Courses

050. Recital. (1). Recital attendance and performance. Laboratory observation of performance media, literature and recital techniques. Admission required for BM and BME majors, according to the requirements of the degree checklist at the time of enrollment. Repeatable. F 12 050 1 1004

080. Topics in Music. (1-3). Topics exploring events, conditions, relationships, styles, etc., in music. See Schedule of Courses for current listing. Not applicable to degree. Repeatable. F 12 080 2 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 1 1004

122. English Diction. (1). Designed for the vocal performer, including a comprehensive study of English consonant and vowel sounds. F 12 122 2 1004

148. Double Reed Making and Adjusting. (1). Making and adjusting oboe, English horn and bassoon reeds. Repeatable for credit. Prerequisite: Mus. E. 238 or instructor's consent. F 12 148 2 1004

150. Music Performance Workshop. (1-4). Repeatable for credit. F 12 150 2 1004

210-211-212-213-214. Ensembles. (1-1-1-1-1). (A) Orchestra; (B) Concert Band; Marching Band; Symphony Band; Wichita Commu-

nity Band; Wind Ensemble; (C) Choral Union; (D) Women's Glee Club; Men's Glee Club; (E) A Capella Choir; University Singers; Concert Chorale; (G) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (N) Woodwind Ensemble; (O) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) Beginning String Ensemble and String Chamber Ensemble; (T) Jazz Arts Ensembles I and II; (V) Guitar Ensemble. Repeatable for credit. F 12 210 1 1004; F 12 211 1 1004; F 12 212 1 1004; F 12 213 1 1004; F 12 214 1 1004

217. Instrumental Conducting. (2). Fundamentals of baton technique, elementary score reading and musical leadership. Practical experience in conducting laboratory and classroom groups. F 12 217 0 1004

218. Choral Conducting. (2). Fundamentals of conducting, score reading and rehearsal techniques. Practical experience conducting classroom groups. Prerequisites: Mus. C. 126 and 130. F 12 218 0 1004

221. German Diction. (1). Designed for the vocal performer, including a comprehensive study of German consonant and vowel sounds. F 12 221 0 1004

222. French Diction. (1). Designed for the vocal performer, including a comprehensive study of French consonant and vowel sounds. F 12 222 0 1004

223-224. Applied Piano Accompanying. (2-2). Individual private study of standard accompaniment literature. Prerequisites: successful completion of two semesters of piano study. F 12 223 0 1004; F 12 224 0 1004

250-251. Applied Piano Concerto. (2-2). Designed to give students concerto performance experience. Prerequisites: sophomore standing and admittance to the BM performance program. F 12 250 0 1004; F 12 251 0 1004

281. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized program. Students must be in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 251 for fall term must take two scheduling patterns: Parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory standing prior to the first job assignment. May be repeated for credit. Offered CR/NC only. F 12 281 2 1004

Upper-Division Courses

300. Junior Recital. (1). Required for BM piano majors, performance or accompanying emphasis. Prerequisite: departmental consent. F 12 300 3 1004

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

410-411-412-413-414. Ensembles. (1-1-1-1-1). (A) Orchestra; (B) Concert Band; Marching Band; Symphony Band; Wichita Commu-
ing Band; Symphony Band; 'Wichita Community Band; Wind Ensemble; (C) Choral Union; (D) Women's Glee Club; Men's Glee Club; (F) A Cappella Choir; University Singers; Concert Chorale; (J) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (M) Woodwind Ensemble; (O) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) Beginning String Ensemble; (T) Jazz Assemblies I and II; (V) Guitar Ensemble. Repeatable for credit. F 12 410 1 1004; F 12 411 1 1004; F 12 412 1 1004; F 12 413 1 1004; F 12 414 1 1004.

115Y. Voice for Music Theater. (2). Basic repertoire and singing techniques with weekly master class devoted to music theater techniques and concepts. Restricted to persons other than vocal majors. F 12 415Y 3 1004


481. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate college and departmental consent coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered CR/NCR only. F 12 481 2 1004.

Courses for Graduate/Undergraduate Credit

580. Piano Pedagogy. (2). Primarily concerned with the art and science of teaching. Includes observation of master teachers in the University and community. F 12 580 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

620. String Pedagogy: Violin and Viola. (2). Required for violin and viola performance majors. An study of tutioal techniques for violin and viola, including the teaching of mini-lessons for instructor and class critique. Prerequisite: violin or viola performance capability or consent of instructor. F 12 620 0 1004

625. Voice Pedagogy. (2). Required for voice performance majors. Designed to acquaint the voice major with vocal techniques, concepts and materials of private and class instruction. F 12 625 0 1004

651. Advanced Conducting and Score Reading. (2). Baton technique, score reading, and musicianship. Prerequisite: Mus. P 271 or 218 or equivalent. F 12 651 0 1004

680. Woodwind Pedagogy. (2). Required for woodwind performance majors. A comprehensive study of woodwind instrument techniques, concepts and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on a woodwind instrument or consent of instructor. F 12 680 0 1004

681. Brass Pedagogy. (2). Required for brass performance majors. A comprehensive study of brass instrument techniques, concepts and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on a brass instrument or consent of instructor. F 12 681 0 1004

682. Percussion Pedagogy. (2). Required for percussion performance majors. A comprehensive study of percussion instrument techniques, concepts and materials of studio instruction for the advanced student, including the teaching of mini-lessons for instructor and class critique. Prerequisite: performance capability on percussion instruments or consent of instructor. F 12 682 0 1004

691. Advanced Choral Conducting. (2). A comprehensive study of conducting and rehearsing techniques, analysis and ear training techniques. Prerequisites: concurrent enrollment in applied area. F 12 691 0 1004

707. Piano Repertoire. (1). Designed to give performance and listening experience to piano performance majors. Repeatable for credit. F 12 707 2 1004

710-711-712-713-714. Ensembles. (1-1-1-1-1). (A) Orchestra; (B) Concert Band; Marching Band; Symphony Band; 'Wichita Community Band; Wind Ensemble; (C) Choral Union; (D) Women's Glee Club; Men's Glee Club; (F) A Cappella Choir; University Singers; Concert Chorale; (J) Piano Accompaniment; (K) Opera Theater; (L) Madrigal Singers; Chamber Singers; (M) Woodwind Ensemble; (O) Saxophone Quartet; (P) Brass Chamber Ensemble; (R) Percussion Ensemble; (S) Beginning String Ensemble and String Chamber Ensemble; (T) Jazz Ars Ensembles I and II; (V) Guitar Ensemble. Repeatable for credit. F 12 710 1 1004; F 12 711 1 1004; F 12 712 1 1004; F 12 713 1 1004; F 12 714 1 1004

715Y. Voice for Music Theater. (2). Basic repertoire and singing techniques with weekly master class devoted to music theater techniques and concepts. Restricted to persons other than vocal majors. F 12 715Y 3 1004

750. Music Performance Workshop. (1-4). Repeatable for credit. F 12 750 0 1004

760. Group Piano Practicum. (2). Supervised group piano teaching for graduate students. Prerequisites: Mus. P. 580 and 581. F 12 760 0 1004

761. Studio Piano Practicum. (2). Supervised studio teaching for graduate students. Prerequisites: Mus. P. 580 and 581. F 12 761 2 1004

790. Special Topics in Music. (1-4). For individual or group instruction. Repeatable with departmental consent. F 12 790 2 1004

Courses for Graduate Students Only

841. Special Project in Music. (1-3). Individually supervised study or research with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 12 841 4 1004

842. Special Project in Music. (1-3). Individually supervised study or research with emphasis upon the personal needs of the student. Repeatable for credit. Prerequisite: instructor's consent. F 12 842 4 1004

843. Piano Pedagogy Seminar. (2). Variable topics, such as (1) advanced techniques in class piano or private piano (college curriculum); (2) class piano in early childhood; (3) class piano for leisure-age students; (4) class piano in public (or private) schools, extending the advanced study of piano pedagogy students as needed. Repeatable for credit. Prerequisite: Mus. P. 580. F 12 843 0 1004

852. Introduction to Graduate Study. (3). See course listing under musicology composition department. F 13 852 0 1006

873. Graduate Recital. (2). Performance of a full recital featuring the chief performing medium(s) required for the advanced BM in applied area. F 12 873 4 1004

874. Professional in-Service Presentation Project. (2). Planning, organizing and presenting a three-hour in-service presentation ("workshop") to in-service private piano teachers, perhaps in conjunction with an established community piano teacher's league, etc. Available as a terminal requirement alternative (in lieu of performance recital) in the Master of Music (piano pedagogy emphasis). Students approved for this terminal requirement option will also be required to perform a major piano work, prepared at acceptable recital level, during semester jury examination within the final year (two semesters) of the degree program. Requires approval of piano performance area faculty. Repeatable: departmental consent. F 12 874 4 1004

Musicology-Composition

Lower-Division Courses

113Q. Introduction to Music Literature. (3). Development of skills and techniques used in critical analysis and a comparison of the contrasting styles of both Western and non-Western music. The course is designed for music majors or students with significant background in music. F 13 113Q 0 1006

114. Music Literature Survey. (2). A survey of representative works from the vocal and instrumental repertoire. Prerequisite: Mus. C. 113G or instructor's consent. F 13 114 0 1006

127Q. 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. C. 129. F 13 127Q 0 1004

127H. Theory I Honors. (2). Fundamentals of music, melodic writing and analysis, elementary melodic formal structures (cadence, phrase, period), simple harmonic relationships among the contributed techniques. Prerequisites: concurrent enrollment in Mus. C. 129 and departmental consent. F 13 127H 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 127H or equivalent and instructor’s consent. F 13 259 3 1004 & F 13 260 3 1004

281. Cooperative Education. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individual programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op must complete two schedules: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; alternating, working full-time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. Offered Co/In Cr only. F 13 481 2 1006

493G. American Music. (3). A study of music in American society from 1820 to the middle of the 20th century. F 13 493G 0 1006

Courses for Graduate/Undergraduate Credit

523. Form and Analysis. (2). Extensive analysis of the forms and formal processes of musical literature. Prerequisite: Mus. C. 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 various ensembles in the smaller forms. Designed for theory-composition majors. Repeatable. Prerequisites: MUS. C. 260 and consent of theory-composition area faculty and departmental consent. 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. C. 228. F 13 561 0 1004

597-598. Organ Literature and Practice. (1-1). Performance and discussion of works for organ. BeTS in instrumentation and analysis of student composition major. F 13 597 0 1004 & F 13 598 0 1004

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

641. Orchestration. (2). The study of instrumentation, emphasizing idiomatic scoring for various instrumental combinations with an approach to the problems of full orchestra and band scores. Prerequisite: Mus. C. 227. F 13 641 0 1004

645. Choral Arranging. (2). Scoring for women’s, men’s and mixed choruses. Performance and discussion of works for chorus and small groups in the larger forms. Prerequisite: Mus. C. 228 and 230 or instructor’s consent. F 13 645 0 1004

659-660. Applied Composition. (2-2). Individual study in musical composition with emphasis on writing for both small and large groups in the larger forms. Repeatable. Prerequisites: Mus. C. 260 and instructor’s consent. F 13 659 3 1004 & F 13 660 3 1004

661. 16th Century Counterpoint. (2). Analysis and application of the contrapuntal composition techniques of the 16th century. Prerequisite: Mus. C. 227. F 13 661 0 1004

671. Chromatic Harmony. (2). Advanced study of chromatic harmonic materials in all periods with special attention to the 19th
Introduction to Graduate Study. (3). Techniques of research and development of bibliography in music and music education. The course must be elected first available semester of enrollment. F 13 852 0 1006

859-860. Advanced Composition. (2-3). Original work in the large forms and a continuation and expansion of Mus. C 659-660. Prerequisite: Mus. C. 660 or equivalent. F 13 859 0 1006; F 13 860 0 1006

879-880. History of Music. (3). A comprehensive historical survey and stylistic analysis of music for solo strings and chamber combinations, beginning with the early baroque period. F 13 880 0 1006

872-873. Piano Literature. (2-2). A historical survey of choral literature from the Renaissance to the 20th century. F 13 872 0 1006

775. Thesis Research. (1). F 13 875 1 1006

766. Thesis. (2). F 13 866 0 1006

893. Music of Antiquity Through the Renaissance. (3). F 13 893 0 1006

894. Music of the Baroque Era. (3). F 13 894 0 1006

895. Music of the 18th Century. (3). F 13 895 0 1006

896. Music of the 19th Century. (3). F 13 896 0 1006

887. Music of the 20th Century. (3). F 13 887 0 1006

School of Performing Arts

The School of Performing Arts includes the areas of dance and theatre. The school offers the degree of Bachelor of Fine Arts in Performing Arts/Dance and Bachelor of Fine Arts in Performing Arts/Theatre.

All candidates for the BFA degree must complete the following core courses: Theatre 254, Stage Makeup; Theatre 253, Costuming for the Stage; Theatre 545, Stage Lighting; and Theatre 518, Stage Movement or Dance 210, Ballet I.

Dance

Major emphasis is placed on modern dance technique with strong supportive classes in ballet. Major course offerings include study in modern dance technique, ballet technique, choreography, dance history, performance and production, music for dance, repertory, lighting, make-up and costuming. Additional courses are offered in methods of teaching and practice teaching, jazz, tap, ballroom and other dance forms.

The Mid-America Dance Theatre presents at least two performance seasons annually and offers lecture demonstrations, master classes and informal concerts throughout the year. Membership into the company is by audition only.

Any student who intends to pursue dance as a major should contact the dance program early in their educational career for assignment to a faculty academic advisor.

Graduation Requirements

Dance majors must complete Dance 501, Modern Dance IV, and Dance 410, Ballet III. A minimum of 42 hours is required in modern dance and ballet with at least 24 of these hours in modern dance technique. All majors must take a minimum of five technique classes per week.

Advance from one level of technique to the next is automatic and will be by the instructor's consent or by audition. Students will be placed at the appropriate technical level upon admission to the program.

All dance majors are required to perform in a School of Performing Arts/Dance-sponsored performance each semester. Junior and senior dance majors are required to enroll and perform in Mid-America Dance Theatre upon acceptance by audition. Junior and senior dance majors who are not accepted into MADC are required to enroll in Dance Performance (Dance 320) and perform in an approved dance-sponsored performance. This requirement does not apply to senior dance majors during the semester in which they present their senior concert.

All majors present a senior concert to include one solo, one duet and one group dance and must perform in two of these three pieces. The total length of time for the senior concert should be between 20 and 25 minutes.

Bachelor of Fine Arts

The general graduation requirements of the University must be met as described in the Academic Information—Requirements for Graduation section of the Catalog. In addition, the following course requirements must be met.

Course

Dance 201, Modern Dance Technique I; Dance 301, Modern Dance II; Dance 401, Modern Dance III; Dance 501, Modern Dance IV. (Placement and ad-
vancement by audition and/or faculty consent only.) 24

Dance 210, Ballet I; Dance 310, Ballet II; Dance 410, Ballet III. (Placement and advancement by audition and/or faculty consent only.) 15

Dance 305, Choreography I; Dance 405, Choreography II . 8

Dance 325Q, Dance History I; Dance 425Q, Dance History II . 6

Dance 315, Music for Dance . 3

Dance 505, Choreography III; Dance 605, Choreography IV . 6

Dance 320, Performance, or Dance 635, Mid-America Dance Theatre . 3

Total 65

In addition to the above required courses, a minimum of 9 hours should be selected from the following: music, art and dance courses with at least 3 hours in 3 disciplines.

Thea. 143G, The Art of the Theatre; 243Q, Acting I; 244, Stagecraft; 623Q, Development of the Theatre; or 624Q, Development of the Theatre II

Mus. C. 160G, The Heritage of Western Music; 315, Music of the 20th Century; or 346, Styles of Jazz

Art H. 122G, Survey of Western Art: Renaissance and Baroque; 124, Survey of Western Art: Modern; 525, 20th Century Art Before 1945; 526, Art Since 1945; or Art F. 136, Foundation Design I

Dance 545, Methods of Teaching Dance; 645, Practice in Teaching Dance; 120, Jazz I; 220, Jazz II; 130B, Tap I; 130J, Advanced Tap; or 320, Performance

The remaining hours should be selected to fulfill General Education Program requirements.

### Lower-Division Courses

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>120. Jazz I. (1-2).</strong></td>
<td>Introduction to jazz technique, emphasizing work in body isolations, rhythmic patterns and directions, basic steps and history and development of jazz dance in America. Repeatable for credit. F 18 120 5 1008</td>
</tr>
<tr>
<td><strong>130. Varieties of Dance. (1-2).</strong></td>
<td>No previous experience in dance required. A different form of dance may be offered each semester. Repeatable for credit. F 18 130 5 1008</td>
</tr>
<tr>
<td><strong>150. Dance Workshop. (1-4).</strong></td>
<td>Repeatable for credit. F 18 150 2 1008</td>
</tr>
<tr>
<td><strong>201. Modern Dance Technique I. (2-3).</strong></td>
<td>Introduction to study of basic positions, body alignment, stretches and strengthening exercises; simple movement phrases are emphasized to develop understanding of direction, rhythm and dynamics. Repeatable for credit. F 18 201 5 1008</td>
</tr>
<tr>
<td><strong>210. Ballet I. (2-3).</strong></td>
<td>Introduction to basic technique, positions, basic steps, proper body alignment, classroom structure and etiquette and ballet vocabulary. Repeatable for credit. F 18 210 5 1008</td>
</tr>
<tr>
<td><strong>220. Jazz II. (1-2).</strong></td>
<td>Continuation of Dance 210 at intermediate/advanced level. Repeatable for credit. Prerequisite: instructor’s consent or by audition. F 18 220 5 1008</td>
</tr>
<tr>
<td><strong>301. Modern Dance II. (2-3).</strong></td>
<td>Continuation of Dance 210 with emphasis on movement phrases. Intermediate level. Repeatable for credit. Prerequisite: instructor’s consent or by audition. F 18 301 5 1008</td>
</tr>
<tr>
<td><strong>305. Choreography I. (4).</strong></td>
<td>Course will focus on improvisation and composition and will include instruction in production elements: lights, costumes, sets, props, publicity and video production. Students will be required to do compositional studies which may include time, space, energy, design, dynamics, rhythm, motivation, sequencing, phrasing, movement qualities and transitions. Prerequisites: one year of modern dance and equivalent to intermediate technical level. Concurrent enrollment in appropriate-level modern dance or ballet technique class required. F 18 305 5 1008</td>
</tr>
<tr>
<td><strong>310. Ballet II. (2-3).</strong></td>
<td>Continuation of Dance 210. Intermediate level. Repeatable for credit. Prerequisite: instructor’s consent or by audition. F 18 310 5 1008</td>
</tr>
<tr>
<td><strong>315. Music for Dance. (3).</strong></td>
<td>Study of tempo, meter and quality of sound as applied to movement. Exploration of appropriate music repertoire for dance. Prerequisite: completion of two semesters of modern dance or ballet technique. F 18 315 5 1008</td>
</tr>
<tr>
<td><strong>320. Performance. (1-3).</strong></td>
<td>Perform in choreography composed by students enrolled in choreography and/or performance and production classes. Prerequisite: instructor’s consent or by audition. Credit hours to be determined by instructor. F 18 320 5 1008</td>
</tr>
<tr>
<td><strong>325Q. Dance History I. (3).</strong></td>
<td>The development of dance up to the 20th century. Study of national origins and period dance movement styles. F 18 325Q 1 1008</td>
</tr>
<tr>
<td><strong>401. Modern Dance III. (3).</strong></td>
<td>Continuation of Dance 301. Upper intermediate level. Repeatable for credit. Prerequisite: instructor’s consent or by audition. F 18 401 5 1008</td>
</tr>
<tr>
<td><strong>405. Choreography II. (4).</strong></td>
<td>Further work in improvisation, composition and production experience. Course culminates in a performance of solo works for an invited audience. Prerequisites: Dance 305 and concurrent enrollment in appropriate-level modern dance or ballet technique class. F 18 405 5 1008</td>
</tr>
<tr>
<td><strong>410. Ballet III. (3).</strong></td>
<td>Continuation of Dance 310. Upper intermediate level. Repeatable for credit. Prerequisite: instructor’s consent or by audition. F 18 410 5 1008</td>
</tr>
<tr>
<td><strong>425Q. Dance History II. (3).</strong></td>
<td>Twentieth century dance emphasizing the emergence of ballet and later, modern dance. Study of major choreographers, performers and dance companies. F 18 425Q 5 1008</td>
</tr>
</tbody>
</table>

### Courses for Graduate/Undergraduate Credit

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>501. Modern Dance IV. (3).</strong></td>
<td>Continuation of Dance 401. Advanced level. Emphasis on professional technique and performance quality. Repeatable for credit. Prerequisite: instructor’s consent or by audition. F 18 501 5 1008</td>
</tr>
<tr>
<td><strong>505. Choreography III. (3).</strong></td>
<td>Course focuses on the choreographic process. Students create choreographic studies for more than one dancer utilizing elements studied in Choreography I and II and exploring different choreographic approaches. Further exploration may include environmental, chance, and collaborative choreographies and multimedia approaches. Students are encouraged to explore new approaches to accompaniment, such as live music, self-produced music, unusual or innovative sources. Prerequisites: Dance 405 and concurrent enrollment in appropriate-level modern dance or ballet technique class. F 18 505 5 1008</td>
</tr>
<tr>
<td><strong>510. Ballet IV. (3).</strong></td>
<td>Continuation of Dance 410. Advanced level. Emphasis on professional technique and performance quality. Repeatable for credit. Prerequisite: instructor’s consent or by audition. F 18 510 5 1008</td>
</tr>
<tr>
<td><strong>545. Methods of Teaching Dance. (3).</strong></td>
<td>Course in developing teaching skills for elementary schools, high schools, recreation centers, private and professional schools and universities through lesson planning and in-class teaching practice. Prerequisite: Dance 401 or 410. F 18 545 5 1008</td>
</tr>
<tr>
<td><strong>605. Choreography IV. (2).</strong></td>
<td>Further work on the choreographic process begun in Choreography III. The class produces a concert of the students’ works at the end of the semester. Prerequisites: Dance 505 and concurrent enrollment in appropriate-level modern dance or ballet technique class. F 18 605 5 1008</td>
</tr>
<tr>
<td><strong>635. Mid-America Dance Theatre. (1-6).</strong></td>
<td>The student company performs on campus and in the community and tours as the occasion arises; members accepted by audition, which is open to community and University dancers. Concurrent enrollment in appropriate-level modern dance or ballet technique is required. Mid-America Dance Theatre is repeatable for credit. F 18 635 5 1008</td>
</tr>
<tr>
<td><strong>645. Practice in Teaching Dance. (3).</strong></td>
<td>Actual placement in teaching situation with responsibility of teaching ballet, modern and/or jazz in private schools, elementary, high schools, Ys or recreation centers. Prerequisite: Dance 545. F 18 645 5 1008</td>
</tr>
<tr>
<td><strong>690. Special Topics in Dance. (1-8).</strong></td>
<td>For individual or group instruction. Repeatable for credit with departmental consent. F 18 690 2 1008</td>
</tr>
<tr>
<td><strong>750. Dance Workshop. (1-4).</strong></td>
<td>Repeatable for credit. F 18 750 2 1008</td>
</tr>
</tbody>
</table>

### Theatre

Theatre offers a broad academic program, balanced by the extensive production schedule of the University theatre—Mainstage, Experimental Theatre, Readers Theatre and Summer Theatre, a professional stock company whose members are chosen by audition only.
Graduation Requirements
All theatre majors must participate in some area of the production of University theatre plays, after consultation with faculty and staff. Candidates for the BFA must choose to follow a theatre performance track or a technical theatre and design track. In addition to the core courses, the following requirements must be met.

Theatre Performance Track
A minimum of 61 hours, including Theatre 143Q, 180, 221Q, Dance 210 or Theatre 218, 222, 225, 230, 241, 243Q, 244, 259, 360, 450, 455, 542, 643, 651, 623Q, 624Q, 728, along with three hours chosen from the following: Theatre 516, 517, 559, 621, 375, 675.

Technical Theatre and Design Track
A minimum of 67 hours, including Theatre 143Q, 180, 221Q, 243Q, 244, 259, 272, 380, 450, 544, 546, 623Q, 624Q, 728, 644, 647, 649, 657. Art History 121Q, 122Q or 124G; Studio Art 145 or 240, along with three hours chosen from the following: Industrial Technology 120, Graphic Design 236; Theatre 375, 675.

BA, BA in Education and MA in Theatre
Theatre also offers a Bachelor of Arts degree and a Bachelor of Arts in Education degree. For the Master of Communication/Theatre, see Communications.

The BA major requires a minimum of 40 hours, including Theatre 180, 221Q, 243Q, 244, 253, 254, 259, 360, 623Q, 624Q, 728 and at least 12 hours of electives, chosen with the adviser's consent from other theatre courses. All majors must participate in some area of the production of University Theatre plays, after consultation with staff and faculty members.

Students intending to teach have two options:
1. Theatre major. At least 40 hours, including Theatre 180, 221Q, 243Q, 244, 253, 254, 259, 360, 623Q, 624Q, 728, Comm. 650 and 661, plus six hours of electives, chosen with the adviser's consent from other theatre courses.
2. Combined theatre/rhetoric and communication major. At least 39 hours, including Theatre 221Q, 243Q, 244, 259, Comm. 111, 112, 211, 213Q, 228Q, 650, 661, plus six hours of electives, chosen with the adviser's consent from other theatre courses.

Students also must meet the requirements for the professional education sequence and prior to admission to the student teaching semester, must have a 2.500 grade point average in their major field and recommendation from the major department.

Noncredit Courses
044. Stagecraft Lab. (2). The practical application of the University Theatre in a supervised laboratory situation. Must be taken concurrently with Thea. 244. F 19 044 1 1007
045. Stage Lighting Lab. (2). The practical application of classroom theory in a supervised laboratory situation. Must be taken concurrently with Thea. 245. F 19 045 1 1007
053. Costume Lab. (2). The practical application of classroom theory in a supervised laboratory situation. Must be taken concurrently with Thea. 253. F 19 053 1 1007

Lower-Division Courses
143Q. The Art of the Theatre. (3). An introduction to the theatre as an art form with emphasis on appreciation of the audience. The course is not counted toward a theatre major. F 19 143Q 1 1007
180. Theatre Practicum. (1). Practical training in the organization and presentation of plays. F 19 180 1 1007
181. Stage Movement. (3). Course deals with basic warm-ups, strengthening and Stamina exercises and corrective-maintenance exercises to aid in the development of an expressive body for the actor. F 19 181 1 1007
221Q. Oral Interpretation. (3). Cross-listed as Comm. 221Q. The development of the student with certain regional American and Shakespearean pronunciations 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. F 19 221Q 1 1007
222. Improving Voice and Diction. (3). Cross-listed as Comm. 222. A course for students wishing to improve their speaking voices and gain greater control over their pronunciation of spoken English. The course is performance oriented; however, the anatomy of the vocal mechanism and the International Phonetic Alphabet are studied for practical application in the improvement of voice and diction. F 19 222 1 1506
225. Expressive Voice for the Stage. (3). Course is designed to develop the individual's ability to express thought and emotion on the stage through the effective use of the voice. Exercises, drills, poetic and dramatic readings will be used to improve the quality, flexibility and effectiveness of the speaking voice. Prerequisite: Thea./Comm. 222. F 19 225 1 0077
230. Dialects for the Stage. (3). The main focus of this course is to familiarize the student with American regional, foreign, and Shakespearean dialects. The course is intended to be a practical guide for the student actor who is called upon to reproduce a particular dialect for performance. Prerequisite: Thea./Comm. 222. F 19 230 1 0077
241. Improvisational and Theatre Games. (3). The course is designed for the beginning student in theatre. Through exercises, analytical and spontaneous responses and readings, the course contributes to the training of the student actor's imagination, his/her sense of stage presence and ability to explore basic components of playtexts. F 19 241 1 1007
243Q. Acting I. (3). Emphasis on the internal techniques of acting, on characterization and on the actor's analysis of the play and the role. F 19 243Q 1 0077
244. Stagecraft. (2); L arr. Theory and practice of making, painting and using scenery for the stage. Practical work on University Theatre and Experimental Theatre productions. F 19 244 1 1007
253. Costuming for the Stage. (3); L arr. Theory and practice of design and construction; pattern making, material selection, wardrobe management and organization, and practical experience with University Theatre and Experimental Theatre productions. F 19 253 1 1007
254. Stage Makeup, (2). Study and practice of the basic application of stage makeup. Also includes character analysis, anatomy, materials and special makeup techniques and problems. F 19 254 1 1007
259. Directing I. (3); 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: Comm. 243Q or departmental consent. F 19 259 1 1007
272. Stage and Theatre Management. (3). Course is designed to acquaint students with the fundamentals of stage and theatre management. Students will study at least the aspects of production (budgets, schedules, properties, etc.). In addition to classroom work, students will be required to work as a stage manager or an assistant stage manager for a theatre production. Prerequisite: Sophomore standing. F 19 272 2 1007

Upper-Division Courses
344. Scene Design. (3). Fundamentals of scene design. Practical work on University Theatre and Experimental Theatre is included. F 19 344 1 1007
345. Stage Lighting. (3); L arr. Lighting equipment and light design and its relation to scenery design. Emphasis is upon the problems of producing the play with practical work on University Theatre and Experimental Theatre productions is included. Prerequisite: Thea. 244 with a grade of C or better. F 19 345 1 1007
375. Directed Projects in Theatre. (2-4). Independent research or practical and creative projects in the various areas of theatre, including performance, design, technical theatre, management and dramatic literature. Repeatable for credit to a maximum of 12 credit hours. Prerequisite: Departmental consent. F 19 375 2 1007
380. Theatre Practicum. (1). Practical training in the organization and presentation of plays in the University Theatre program. The practicum may be organized in the following areas: design and construction of scenery, costumes or properties; the design and execution of stage lighting or makeup; and the organization and practice of theatre management. May be repeated once for credit. F 19 380 1 1007
450. Contemporary Theatre and Drama: Topics. (3). An investigation of the major developments and directions in theatre and
Courses for Graduate/Undergraduate Credit

510. Design Project. (1). Advanced work in the problems of stage lighting design, costume design or scenic design. With the permission and supervision of the appropriate faculty member, the student will design for specific productions for either Mainstage or Experimental Theatre. Course is repeatable twice for credit if taken in different design areas. Prerequisite: instructor's consent. F 19 510 2 1007

516 & 517. Playwriting I and II. (3 & 3). Cross-listed as Eng. 517 and 518. The writing of scripts for performance. Emphasis is on both verbal and visual aspects of playwriting. If possible, the scripts are performed. Prerequisite: instructor's consent. F 19 516 0 1007 & F 19 517 0 1007

542. Advanced Acting. (3). Continued development of methods established in Thea. 243Q with additional emphasis on contemporary vocal and movement techniques. Prerequisites: Thea. 243Q and sophomore standing. F 19 542 0 1007

544. Advanced Stagecraft. (3). R; L arr. Advanced construction techniques are explored for the fabrication of stage scenery and stage properties. Such operations may include welding, vacuum forming, carpentry and working with a variety of new materials. Students complete practical studio work in design for a variety of productions in dance and theatre. Prerequisite: Thea. 244. F 19 544 0 1007

546. Scene Painting. (3). Course is presented with a lecture-demonstration-studio arrangement in which various painting materials and techniques will be explored enabling the student to develop some skill as a scenic artist. Prerequisite: Thea. 244. F 19 546 0 1007

559. Directing II. (3). R; L arr. Staging and rehearsal techniques with emphasis on the problems of the period and stylized play. Prerequisites: Thea. 259 or departmental consent and junior standing. F 19 559 0 1007

610. Directing the Musical. (3). An interdisciplinary course utilizing interdepartmental expertise (theatre, dance, music) to teach the student how to produce a musical. Prerequisites: instructor's consent. F 19 610 0 1007

621. Advanced Oral Interpretation. (3). Intensive study and analysis of various forms of literature, the techniques of effective oral communication and the building of the individuals or group concert. Recital. Arranged workshops and festivals. Prerequisites: Thea. 221Q and junior standing. F 19 621 0 1007

622. Academic Theatre Practicum. (2). The investigation and exploration of the theatrical act in the classroom situation within the University community. This course is designed to reinforce the researching, writing, directing and performing skills. Enrolled students, functioning as a company, produce and perform for various disciplines on campus. Repeatable once for credit. F 19 622 2 1007

623Q. Development of the Theatre 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. F 19 623Q 0 1007

624Q. Development of the Theatre II. (3). From the 17th century to the present. F 19 624Q 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, Shakespearian, Restoration and modern nonrealistic styles. Prerequisites: Thea. 243Q, 542 and junior standing. F 19 643 0 1007

647. Scene Design II. (3) A continuation of Scene Design I with more advanced work in designing settings for the stage and including studies in scenographic techniques and exercises in model building. The student will design settings for a production having a single set, a production requiring a simultaneous setting and a production using multiple settings. No laboratory work in theatre production is required. Prerequisites: Thea. 344 and 345. F 19 647 0 1007

648. Stage Lighting II and Theatre Sound. (3). Course continues the study and application of the theories and techniques of Stage Lighting I, emphasizing advanced concepts of design, and provides an introduction to theatre sound production. Prerequisite: Thea. 345. F 19 649 0 1007

651. Scene Study. (3). The course is designed as the synthesis of all previous acting courses. Scenes are studied in depth as preparation for performance. Course goal in the presentation of fully realized characterizations in those scenes studied, integrating the elements of the actor's craft learned in the prerequisite courses. Prerequisites: Thea. 645 and junior standing. F 19 651 2 1007

653. History of Costume. (3). R; L. Historical survey and individual research of dress from ancient Egypt to present day with emphasis on social, political, economic and religious influences. Theory and practice of adapting period styles to the stage. Prerequisite: Thea. 253 or departmental consent. F 19 653 0 1007

657. Costume Design I. (3). Course will cover the techniques of costume design for the stage. Students will strengthen and expand their knowledge of techniques in costume design for the stage. F 19 657 0 1007

725. Dramatic Theory. (3). Critical examination of selected aesthetic theories of the theatrical arts and the relationship of the theories to major dramatic works and theatrical periods. Prerequisite: Thea. 623Q, 624Q or departmental consent. F 19 725 0 1007

728. Playscript Analysis. (3). The course is designed to develop students' abilities to analyze playscripts from the point of view of those who face the task of staging them. The focus is on studying and testing practical methods of analysis developed by outstanding theatre directors, teachers and critics. Collective analysis and individual projects are part of the course work. Prerequisite: Thea. 623Q or 624Q. F 19 728 0 1007

Courses for Graduate Students Only

820. Investigation and Conference. (2-3). Cross-listed as Comm. 820. Directed research and experimentation for graduate students in some phase of (a) public address, (b) theatre history and production, (c) radio or television or (d) the teaching of speech. Repeatable for credit up to a total of six hours. F 19 820 3 1007

823. History of Dramatic Criticism. (3). A survey and analysis of major critical theories from Aristotle to the present. F 19 823 0 1007

824. Development of Modern Theatre Styles. (3). An examination of the major movements in the modern theatre since 1870. Emphasis is on both literary and physical elements of styles. F 19 824 0 1007
The College of Health Professions was established in 1970. Programs of study are offered in dental hygiene, gerontology, health care administration, health science, medical record administration, medical technology, nursing, physical therapy, physician assistant and respiratory therapy. The primary emphasis of the college's health education programs is the preparation of entry-level health professionals. Additionally, the college provides such services as emergency medical training, continuing education and graduate education for health professionals.

The curricula of the health professional programs build upon a solid foundation of courses from the liberal arts and sciences, education, health science and business. In addition to the on-campus academic experience, health professional students engage in learning in clinical settings as they care for patients and interact with clients of the health care system. All clinical programs are dependent upon the outstanding health care facilities within the city of Wichita and surrounding areas.

Programs in the college are accredited through the following agencies: the Council on Dental Education of the American Dental Association, the Commission on Accreditation in Education in Physical Therapy, National League for Nursing, the Association of University Programs in Health Administration and the Committee on Allied Health Education and Accreditation of the American Medical Association.

**Degrees Offered**

**Undergraduate**

Of the programs offered at the undergraduate level, eight lead to bachelor’s degrees—gerontology, health care administration, health science, medical record administration, medical technology, nursing, physical therapy and physician assistant.

In addition, the Associate of Science is awarded in dental hygiene and respiratory therapy. Students in the emergency medical training program receive a certificate of completion.

**Graduate**

Three programs lead to the master’s degree—gerontology, health science and nursing. The gerontology program offers courses of study leading to the Master of Arts (MA) degree. This interdisciplinary degree draws upon the health sciences, biological sciences, psychology, economics, sociology, anthropology and political science.

A graduate program leading to a Master of Health Science (MHS) degree with options for emphasis in administration, education or advanced clinical study is offered. Admission to the MHS program of study requires a bachelor’s degree and the fulfillment of additional requirements.

A Master of Science in Nursing program, designed to meet the needs and professional goals of the student, is offered for part-time or full-time study. Clinical concentrations are offered in adult nursing, maternal child nursing, psychiatric/mental health nursing and nursing administration. Role development in administration, teaching or advanced practice is also available.

More information on graduate programs is available in *The Wichita State University Graduate Bulletin*.

**Policies**

**Admission**

Students may be admitted to the College of Health Professions upon successful completion of 24 semester hours with an overall and WSU grade point average of 2.000 or above. Students seeking a bachelor’s degree program in the college must have completed the basic skills requirement (English 101 and 102, Communication 111 or 112; and Math 109, 111, 112, 211 or equivalent) with a grade of C or better, or must have earned an associate degree prior to admission into the college. Those students seeking admission to an associate degree program must have earned a C or better in the basic skills required for the specific program.

Admission to the college does not guarantee acceptance into any of the undergraduate professional programs. To be admitted to a professional program, students must be accepted into The Wichita State University and the College of Health Professions, apply for admission to a particular program and be accepted by the admissions committee of that program. See the individual programs for application procedures.

**Probation and Dismissal**

Students are placed on probation for the next term in which they enroll if their WSU grade point average falls below 2.000. Students remain on probation if their WSU cumulative grade point average is not at least 2.000. Probation is removed when a student’s WSU grade point average meets the required academic level.

Students on probation may not enroll for more than 12 semester hours in the fall or spring semester, or five hours in the Summer Session, excluding one hour of military science or physical education. Exception to this limitation may be made on the recommendation of a student’s adviser with the approval of the dean of the college.

Students on probation are subject to dismissal from the College of Health Professions if their grade point average for the semester during which they are on probation falls below 2.000. Dismissal will not occur until students fail to achieve a 2.000 grade point average for the last 12 hours attempted while on probation.

Students assigned to affiliating health facilities for clinical education will be subject to dismissal from the professional program for failure to comply with the rules, regulations or professional standards governing that facility.

**Credit by Examination**

Some of the programs in the College of Health Professions offer equivalency or competency examinations. By taking these exams, students may earn credit or receive advanced placement. To qualify for such exams, students must:

1. Be accepted into the program (major) in which the course is offered as part of the professional curriculum
2. Meet any other eligibility requirements 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 Professions Admissions-Exceptions Committee and the dean.

Students should check with their departmental advisers regarding eligibility and prerequisite requirements for this type of examination. Transcripts will identify the courses and credits received by students taking equivalency/competency examinations. Fees are assessed, in advance, for the administration of the examinations.

**Progression**

To progress in the professional sequence, a grade of C or C+ must be earned in all professional
In addition to fulfilling all requirements for admission to The Wichita State University, students wishing to enroll in the College of Health Professions program must meet general University requirements and fulfill the course requirements specified in the curriculum of the department offering the degrees. A minimum of 30 credit hours in course work in residence at WSU is required for all students seeking bachelor's degrees at WSU. In addition, these students must also complete all University, college and departmental requirements for the degrees being sought. Completion of University courses is counted toward fulfillment of the residency requirement. For specific requirements, consult the individual departmental sections of the Catalog.

Special Certificate Programs
The College of Health Professions offers a certificate program in basic emergency care training. It cooperates with the College of Education in offering a certification program for school nurses (see Nursing).

Financial Aid
Scholarships and student loan funds are available for students in health professions. Information on these and other scholarships and loans is available from The Wichita State University Office of Financial Aid and the department from which the student is seeking a degree or certificate.

Cooperative Education
The College of Health Professions is one of the participating colleges in the University Cooperative Education Program. This program is designed to provide off-campus paid employment experiences that integrate, complement and enhance the student's regular academic program while providing academic credit. Students are placed for field study experiences in a variety of health settings, including hospitals and community agencies. Individualized field studies are formulated in consultation with the student and the employer and are approved by the departmental faculty advisers and the cooperative education coordinator for the college. Participation in the program requires enrollment for credit in specific cooperative education courses designated by the various academic departments in the college; these undergraduate courses may have prerequisites or other specific requirements for enrollment. To enroll in the program or for more information, students should contact the college cooperative education coordinator or the department adviser.

Graduation Requirements
All health professions students who are pursuing bachelor's degrees must meet general University requirements and fulfill the course requirements specified in the curriculum of the department offering the degrees.

A minimum of 30 credit hours in course work in residence at WSU is required for all students seeking bachelor's degrees at WSU in Dental Hygiene. In addition, these students must also complete all University, college and departmental requirements for the degrees being sought. Completion of University courses is counted toward fulfillment of the residency requirement. For specific requirements, consult the individual departmental sections of the Catalog.

Clinical Affiliation
The college, because of its location in Wichita, has affiliation agreements with various excellent health facilities which assist in the clinical education of students. The clinical affiliates include a wide variety of hospitals, long-term care facilities, public schools, private practitioners and community agencies.

Liability Insurance Requirements
Most students are required to purchase professional liability insurance (the specific level is determined by the professional program) as well as personal health insurance at the beginning of the professional phase of a College of Health Professions program.

Exceptions
Students may petition the department, college or University for exception to any requirement. Students are required to discuss all petitions with their college/department adviser prior to submission of the petition. Petitions may or may not be approved by the body to whom the petition was made.

Liability Insurance Requirements
Most students are required to purchase professional liability insurance (the specific level is determined by the professional program) as well as personal health insurance at the beginning of the professional phase of a College of Health Professions program.

Financial Aid
Scholarships and student loan funds are available for students in health professions. Information on these and other scholarships and loans is available from The Wichita State University Office of Financial Aid and the department from which the student is seeking a degree or certificate.

Cooperative Education
The College of Health Professions is one of the participating colleges in the University Cooperative Education Program. This program is designed to provide off-campus paid employment experiences that integrate, complement and enhance the student's regular academic program while providing academic credit. Students are placed for field study experiences in a variety of health settings, including hospitals and community agencies. Individualized field studies are formulated in consultation with the student and the employer and are approved by the departmental faculty advisers and the cooperative education coordinator for the college. Participation in the program requires enrollment for credit in specific cooperative education courses designated by the various academic departments in the college; these undergraduate courses may have prerequisites or other specific requirements for enrollment. To enroll in the program or for more information, students should contact the college cooperative education coordinator or the department adviser.

Graduation Requirements
All health professions students who are pursuing bachelor's degrees must meet general University requirements and fulfill the course requirements specified in the curriculum of the department offering the degrees.

A minimum of 30 credit hours in course work in residence at WSU is required for all students seeking bachelor's degrees at WSU. In addition, these students must also complete all University, college and departmental requirements for the degrees being sought. Completion of University courses is counted toward fulfillment of the residency requirement. For specific requirements, consult the individual departmental sections of the Catalog.

Special Certificate Programs
The College of Health Professions offers a certificate program in basic emergency care training. It cooperates with the College of Education in offering a certification program for school nurses (see Nursing).

Basic Emergency Medical Care Training
Department of Health, Administration and Gerontology
A certificate in basic emergency medical care training is offered. The certificate is obtained with successful completion of HS 110.

Students who would like to enroll in this course must fulfill all requirements for admission to The Wichita State University and be at least 18 years old. An application to the Emergency Medical Training Admissions Committee must also be submitted. HS 110 classroom instruction encompasses anatomy and physiology, pathophysiology, emergency recognition and care of medical emergencies and trauma-related injuries. In addition, students spend ten hours of in-hospital observation in such areas as the emergency room, surgery, critical care units and the obstetric and psychiatric departments. A simulated automobile accident provides students with field experience in auto extrication. Successful completion of the five-credit-course course meets the educational prerequisite for taking the state and/or national registry examinations for emergency medical technicians.

Degree Requirements and Course Listings
Dental Hygiene

Department of Dental Hygiene
Associate of Science
The associate program in dental hygiene provides students with a knowledge of the social, dental and clinical sciences and competencies needed by the dental hygienist in contributing to the attainment of optimum oral health for all people. Upon completion of the five-semester program (including one summer), students are eligible to take the national, regional and state examinations for licensure as dental hygienists. The Wichita State University program is accredited by the Commission on Dental Accreditation.

The Bachelor of Health Science degree is available to students who seek to expand their role in education or administration. Students interested in more information should contact the college dean's office student adviser.

Professional Curriculum
Admission. In addition to fulfilling all requirements for admission to the University, students wishing to enroll in the dental hygiene program must apply for and obtain approval of the Admissions Committee of the Department of Dental Hygiene. Acceptance into the College of Health Professions does not guarantee admission into the dental hygiene program. Persons interested in the dental hygiene program should direct their inquiries to the chairperson of the Department of Dental Hygiene, The Wichita State University, Wichita, Kansas 67208-1595.

To qualify for admission to the dental hygiene program, applicants must be high school graduates or have passed the General Education Development (GED) test.

Students must meet the following admission criteria. They must:
1. Have taken or be enrolled in Biol. 225, Human Anatomy; Chem. 103Q,
General Chemistry; Engl. 101, College English I; Psy. 110, General Psychology

2. Maintain a minimum grade point average of 2.000 in all college work
3. Complete The Wichita State University and College of Health Professions general admission requirements.

Students must also be interviewed and their admission approved by the department's committee on admissions.

Curriculum. The following courses, totaling 79 to 84 hours, must be taken by dental hygiene students.

Course Hrs.
Prerequisite courses for admission to the dental hygiene program:
Biol. 225, Human Anatomy .......... 3
Chem. 1030, General Chemistry 5
Engl. 101, College English I .......... 3
Psy. 110, General Psychology ........ 3

Plus the following:
Comm. 111, Basic Public Speaking, or Comm. 112. Basic Interpersonal Communication. Soc. 111, Introduction to Sociology
Comm. 1200, Introduction to Microbiology
Comm. 121, General and Oral Pathology
BioI. 1200, Introduction to Microbiology
DH 101, Preclinical Dental Hygiene Concepts I
DH 102, Clinical Dental Hygiene I
DH 206, General and Oral Pathology
DH 208, Embryology, Histology and Oral Anatomy
DH 301, Dental Materials and Expanded Functions
DH 302, Clinical Dental Hygiene II
DH 303, Dental Hygiene Concepts II
DH 304, Dental Hygiene Concepts III
DH 305, Periodontics ..
DH 307, Ethics and Jurisprudence
DH 309, Community Dental Health Education
DH 311, Dental Health Education
DH 323, Clinical Dental Hygiene III
DH 324, Clinical Dental Hygiene IV
DH 409, Introduction to Research for the Health Professions
HS 301, Pharmacology
HS 315, Head and Neck Anatomy
HS 331Q, Nutrition
RT 102, Cardiopulmonary Resuscitation

Special Requirements

Students are required to purchase uniforms and instruments needed during clinical learning experiences. Students also are required to purchase professional liability insurance on an annual basis. In addition, students are required to provide their own transportation to and from the health care agencies used for clinical experiences.

Information related to special requirements is available to students in the office of the Department of Dental Hygiene, The Wichita State University, Wichita, Kansas 67208-1595.

Lower-Division Courses

101. Preclinical Dental Hygiene, (5). 3R; 6L. A study of the practice and theory of dental hygiene. Consideration is given to the prevention of oral disease and promote dental health. Laboratory instruction is given in the use of dental instruments and in the preparation of x-ray films. Offered only in the fall semester. Prerequisite: departmental consent. H 12 101 1 1213

104. Clinical Radiology, (4). 3R; 6L. A study of the theory and practice of clinical radiology, including the use of x-ray techniques. Laboratory periods will be conducted. Care of the equipment is stressed. Prerequisite: departmental consent. H 12 104 1 1213

201. Dental Hygiene Concepts I, (2). Fundamentals of planning and delivering dental hygiene treatment. This course will provide students with the knowledge of the role of dental hygiene in the prevention of dental disease. Prerequisite: departmental consent. H 12 201 1 1213

202. Clinical Dental Hygiene I, (3). 12L. This course emphasizes providing patient care in a clinical setting. Basic instruction in techniques as well as the prevention of dental disease is stressed. Prerequisite: departmental consent. H 12 202 1 1213


240. Cooperative Education Field Study. (1-6). This course is designed to provide the student with a field placement which integrates theories with the practical experience and supervised professional experience and service. Prerequisites: completion of the Freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 12 240 1 1213

290. Embryology, Histology and Oral Anatomy. (3). A study of the development of the oral cavity, oral tissues and organs. Prerequisite: departmental consent. H 12 290 1 1213

Upper-Division Courses


323. Clinical Dental Hygiene III, (3). 12L. A study of advanced clinical concepts and techniques. Prerequisites: completion of the Freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 12 230 1 1213

324. Clinical Dental Hygiene IV, (4). 16L. A study of advanced clinical concepts and techniques. Prerequisites: completion of the Freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 12 324 1 1213
405. Concepts and Principles of Dental Hygiene Administration. (3). Examination and seminar discussion of the following topics: administrative theory, principles and concepts of organizations, history of management thought, planning and effecting innovation, personnel management, administration and finance, operations, motivation, leadership, conflict and communication. Prerequisite: departmental consent. H 12 405 2 1213

409. Introduction to Research for the Health Professions. (1). An introduction to the scope, format and use of research in the health professions. Development of the ability to be a critical consumer of professional literature and the initiation of research projects. Prerequisite: departmental consent. H 12 409 0 1213

420. Course Development and Methods of Teaching in Dental Hygiene Education. (3). Seminar dealing with the implementation of teaching and learning theory and its application in the formation of a course of instruction. Students will gain experience in teaching undergraduates in laboratory/clinical settings. Prerequisite: departmental consent. H 12 420 2 1213

430. Curriculum Development in Dental Hygiene Education. (3). A continuation of DH 420. Focus will be placed on the development of an educational curriculum for a dental hygiene program and additional opportunities will be available for instruction in the clinical/laboratory setting. Prerequisite: departmental consent. H 12 430 2 1213

455. Personnel Management in Dental Hygiene. (3). Analysis of personnel management and completion of a personnel simulation, including job analysis, recruitment, interviewing, testing, job evaluation, wage determination, training, employee evaluation and career development. Prerequisite: departmental consent. H 12 455 0 1213

462. Special Problems in Dental Hygiene. (3). A practical approach to the application and acquisition of basic research techniques as related to dental hygiene. Included in the course are the study and identification of research problems, review of related literature, development of research hypotheses and research methodology. H 12 462 0 1213

465. Research in Dental Hygiene. (3). A continuation of DH 462. The research proposal which is developed in this prerequisite course is implemented, data is collected concerning a special problem in dental hygiene, data analysis is undertaken and conclusions are drawn relative to stated hypotheses. Prerequisite: DH 462. H 12 465 4 1213

481. Cooperative Education Field Study. (1-8). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty members and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment or alternating, working full time one semester in a field study and returning to full school enrollment the following semester; such students include practical nursing, associated health fields, dental hygiene, and all other courses. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 12 481 2 1213

Gerontology

Department of Health, Administration and Gerontology

Bachelor of Science

The program in gerontology provides students with an introduction to the aged and the aging process. Its interdisciplinary approach allows students to develop a multifaceted background of information necessary to assume entry-level positions in the field of gerontology.

Admission

Students must meet the admission requirements for the College of Health Professions described in the college admission section of the Catalog.

Curriculum

Major: In addition to the basic skills and general education requirements, students must take the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
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<tbody>
<tr>
<td>CS 105, An Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>HS 331Q, Principles of Dietetics and Nutrition</td>
<td></td>
</tr>
<tr>
<td>HAE 503, Organization and Administration of the Health Care System</td>
<td>3</td>
</tr>
<tr>
<td>Geron. 100Q, Introduction to Gerontology</td>
<td>3</td>
</tr>
<tr>
<td>Geron. 401, Aging, Work and Retirement</td>
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</tr>
<tr>
<td>Geron. 404, Psychology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>Geron. 513, Sociology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>Geron. 518Q, Biology of Aging</td>
<td>3</td>
</tr>
<tr>
<td>Geron. 550Q, Aging Network</td>
<td>3</td>
</tr>
<tr>
<td>Geron. 501, Internship in Gerontology</td>
<td>3-9</td>
</tr>
</tbody>
</table>

Minor: Students must have at least 15 hours in gerontology including:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geron. 100Q, Geron. 550Q; and nine hours from the following—Geron. 401, Geron. 404, Geron. 513 and Geron. 518Q.</td>
<td></td>
</tr>
</tbody>
</table>

Lower-Division Courses

100Q. Introduction to Gerontology. (3). Introduction to the field of gerontology, including basic concepts, issues and approaches. P 15 1000 Q 2208

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. P 15 150 2 2201

Upper-Division Courses

303. Economic Problems of Aging. (3). Cross-listed as Econ. 303. P 15 303 0 2204

334Q. Developmental Psychology. (3). Cross-listed as Psy. 334Q. P 15 334Q 0 2208

401. Aging, Work and Retirement. (3). Examines the impact of population aging upon the nation; income and poverty among the elderly; retirement and work choices; the impact of lifetime income, Social Security, Medicare, private pensions and health on the income security of the elderly. Prerequisite: Geron. 100 Q. H 26 401 0 2201

404. Psychology of Aging. (3). Cross-listed as Psy. 404. P 15 404 0 2209

481. Cooperative Education. (3-6). Same as Geron. 501 but offered as part of the Cooperative Education program. See Geron. 501 for description and prerequisites. P 15 481 2 2299

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 a week with the field placement supervisor. Repeatable for credit to a total of six hours. Prerequisite: 12 hours of gerontology credit and instructor's consent. P 15 501 2 2201


512. Issues In Minority Aging. (3). Cross-listed as Min. S. 512. Prerequisites: Min. S. 100Q, Geron. 100Q, Soc. 111Q or instructor's consent. P 15 512 O 4999

513. Sociology of Aging. (3). Cross-listed as Soc. 513. P 15 513 0 2208

514. Anthropological Perspectives in Gerontology. (3). Cross-listed as Anth. 514. P 15 514 Q 2208

518Q. Biology of Aging. (3). Cross-listed as Biol. 518Q. P 15 518Q 0 4910

530. Concepts of Loss. (3). Cross-listed as Nurs. 530. P 15 530 0 2201

537. The Social Consequences of Disability. (3). Cross-listed as Soc. 537. P 15 537 0 2208

550. Selected Topics in Gerontology. (1-6). Study in a specialized area of gerontology with the focus upon preprofessional programs and current issues in the field of aging. Emphasis is on knowledge and skills in applied areas of gerontology. Prerequisite: instructor's consent. P 15 550 0 2201

590. Legal Aspects of Health Care Administration. (3). Cross-listed as HAE 590. P 15 590 O 1205


663. Economic Insecurity. (3). Cross-listed as Econ. 663. P 15 663 0 2201

780. Grant Proposal Preparation. (3). Course is concerned with the process of research and project proposal development,
including response to published guidelines, project planning and proposal development and submission. Grant funding, including types of funding sources and their purposes and methods and processes of proposal evaluation are also examined. Students write and evaluate proposals. P 15 700 0 2201

720. Independent Readings in Gerontology. (1-3). Directed study in a specialized topic in gerontology. Repeatable up to six hours. Prerequisite: 12 hours of gerontology credit and departmental consent. P 15 720 3 2201

731. Growth and Development IV: Adults and Aging. (3). Cross-listed as IS 731. P 15 731 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. P 15 750 2 2201

781. Cooperative Education. (3-6). Same as Geron. 810 but offered as part of the Cooperative Education program. See Ger. 810 for description and prerequisites. P 15 781 2 2299

Courses for Graduate Students Only

798. Multidisciplinary Perspectives on Aging. (3). Introduction to the advanced study of the process of aging from a multidisciplinary perspective with emphasis upon social gerontology. Prerequisite: admission to graduate school. Not open to students with an undergraduate major or minor in gerontology. P 15 798 0 2201

800. Seminar in Gerontology I. (3). Advanced study of the theories of aging from a multidisciplinary perspective. Does not count for degree in gerontology. Prerequisite: admission to graduate school. Not open to students with an undergraduate major or minor in gerontology. P 15 798 0 2201

801. Field Research in Gerontology. (3). An examination of the methods of participatory observation and interview as approaches to understanding of aging and the aged. Students gain practical experience in these methods through individual fieldwork projects. Prerequisite: Ger. 788, 12 hours of gerontology credit or instructor's consent. P 15 801 0 2201

802. Policymaking for Gerontologists. (3). The making of policy by gerontologists through analysis, planning and implementation. This course assumes knowledge of aging programs. Prerequisite: Ger. 798, 12 hours of gerontology credit or instructor's consent. P 15 802 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. Prerequisite: 12 hours of gerontology credit and instructor's consent prior to registration. P 15 810 2 2201

820. Thesis. (1-3). Repeatable, but total credit hours counted toward degree shall not exceed four hours. P 15 820 4 2201

Health Care Administration

Department of Health, Administration and Gerontology

Bachelor of Science in Health Administration

The program in health care administration seeks to develop professionally competent individuals to serve in administrative capacities in the health field. Health care administrators are employed in a variety of health facilities and organizations—hospitals, nursing homes, medical group practices and public clinics, health insurance organizations, educational institutions and governmental agencies at federal, state and local levels. The program is an approved member of the Association of University Programs in Health Administration. Upon satisfactory completion of the courses as outlined, plus eight weeks of practicum in a selected area, students receive the Bachelor of Science degree. Additional information regarding the selected areas of special emphasis can be obtained from the chairperson of the Department of Health, Administration and Gerontology.

Admission

In order to be admitted to the health care administration curriculum, students must fulfill the following requirements. They must:

1. Be enrolled in or admitted to the Wichita State University
2. Have completed 45 hours in the required lower-division courses, including 9 hours of basic courses
3. Have an average grade point average of 2.000 or above in all college work completed and no grade lower than C in all required courses
4. Submit to the chairperson of the health administration department a letter of intent including semester of enrollment. Intent to enroll forms may be obtained from the Department of Health, Administration and Gerontology, Room 401, Ahlberg Hall.

Curriculum

Undergraduate

Major. The following courses, totaling 124 hours, are required for a major in health care administration. This curriculum meets both the University's general education and the program's requirements. All undergraduate students are strongly encouraged to take HAE 503 before taking other health administration courses.

Course Hrs.
Basic Skills courses (12 hours) *
Engl. 101, College English I ....... 3
Engl. 102, College English II ....... 3
Comm. 111, Basic Public Speaking ....... 3
Comm. 112, Basic Interpersonal Communication ....... 3

Distribution Courses (30 hours)
Division A, Humanities and Fine Arts (at least nine hours in three different departments and at least five hours in General Studies courses)

Division B, Social and Behavioral Sciences (at least six hours in two different departments)
Econ. 201Q, Principles of Economics ....... 3
Econ. 202Q, Principles of Economics ....... 3
Psy. 111Q, General Psychology ....... 3
Psy. 514, Psychology of Illness ....... 3
Soc. 111Q, Introduction to Sociology ....... 3
Soc. 536, Medical Sociology ....... 3

Division C, Math and Natural Sciences (or six hours in two different departments)
Math. 111, College Algebra or equivalent ....... 3
Biol. 105G, The Human Organism (4) or any higher level biology course ....... 4

Other required courses
Acct. 210, Financial Accounting I ....... 3
Acct. 220, Managerial Accounting ....... 3
CS 105, Introduction to Computers ....... 3
HS 705, Health Systems Research ....... 3
Mgmt. 360, Concepts of Administration ....... 3
Mkt. 300, Marketing ....... 3
Pers. 466, Personnel Management ....... 3
HAE 410, Community Health Concepts ....... 3
HAE 440, Health Care Administration Practicum ....... 6
HAE 503, Organization of the Health Care System ....... 3
HAE 504, Health Economics ....... 3
HAE 507, Health Planning ....... 3
HAE 509, Health Care Operations Analysis ....... 3
HAE 510, Health Finance ....... 3
HAE 599, Legal Aspects of Health Care Administration ....... 3
HAE 605, Health Services Research ....... 3
HAE 684, Health Administration Policy ....... 3
HAE 685, Computer Applications in Health ....... 3

* The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L, means four hours of lecture and two hours of lab.
HAE 686, Seminar in Health Administration .......................... 3
Approved electives to complete the 124-hour graduation requirements
Recommended electives (9 hours must be "G" and/or "Q")
HAE 490, Independent Study in Health Care ......................... 1-3
HS 331Q, Principles of Diet and Nutrition ............................ 3 **
Phil. 327, Philosophy of Health Care .................................. 3
Geron. 303, Economic Problems of Aging ............................ 3
Psy. 404, Psychology of Aging ........................................... 3
Geron. 506, Politics of Aging .............................................. 3
Geron. 513, Sociology of Aging ......................................... 3
Geron. 518, Biology of Aging ............................................. 3
Geron. 537, Social Consequences of Disability ...................... 3
Psy. 336, Alcohol Use and Abuse ...................................... 3
Psy. 526, Drugs and Human Behavior ................................ 3
Wom. S. 3801, Women and Dependencies .......................... 3
*For math requirement, see Division C.
** "Q" courses are required to satisfy general education requirements in Division C.

Lower-Division Courses

111Q, Introduction to Community Health. (3). This course concerns itself with modern community health and its relationship to contemporary health issues. H 24 111Q O 1202
281, Cooperative Education Field Study. (1-8). The goal of this course is to provide the student with a field placement which integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 24 281 2 1201

Upper-Division Courses

410, Community Health Concepts. (3). An introduction to the foundations of public health, biostatistics, epidemiology, ecology, community organizations and organization of health services. Prerequisite: departmental consent. H 24 410 O 1202
440, Health Care Administration Practicum. (6) or (44L). A course providing the student with an opportunity for field experience in the health care system. Students must select, with departmental approval, 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 24 440 2 1202
481, Cooperative Education Field Study. (1-8). The goal of this course is to provide the student with a field placement which integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 24 481 2 1201

Courses for Graduate/Undergraduate Credit

503, Organization and Administration of the Health Care System. (3). Analysis of the nature of health and the input 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 lectures by an array of experts in relevant areas. Prerequisite: departmental consent. H 24 503 O 1202
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 24 504 O 1202
505, The Politics of Health. (3). Cross-listed as Pol. S. 506. 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 or departmental consent. H 24 505 O 1202
507, Health Planning. (3). Designed to discuss strategic business planning in health services management. Includes a strategic management scheme that will accommodate change and encourage innovation and enhanced productivity. Presents an identification of and adaptation to strategies and options in an anticipatory time frame that provides the organization with protection against an increased governmental role in health. Prerequisite: HAE 503 or departmental consent. H 24 507 O 1202
509, Health Care Operations Analysis. (3). An examination of methods for measuring the operational efficiency and effectiveness of health care delivery systems and programs. Includes the derivation of productivity and efficiency measures for health care delivery systems and programs. Prerequisites: HAE 503, Math. 111 or equivalent, Mgmt. 360 and junior standing. H 24 509 O 1202
510, Health Finance. (3). An examination of the principles of financial analysis and management for health care institutions. Emphasis is on understanding and applying general financial concepts to the health setting. Financial organization, sources of operating revenue, management of capital, cost and budgeting are considered utilizing examples for hospitals and other health organizations. Prerequisites: HAE 503 and Accct. 210 or equivalent. H 24 510 O 1202
555, Concepts of Quality Assurance in Health Care. (3). This is a course for health care professionals who are involved in the current social concerns with the quality of health care and appropriate utilization of activities and resources. Prerequisite: departmental consent. H 24 555 O 1202
560, Legal Aspects of Health Care Administration. (3). Cross-listed as Geron. 590. A study of the legal consequences and responsibilities managers have within these organizations. Exposure to management, administration, governmental health agencies, and private health care organizations, the role of the law in these organizations and the role of the law in the organization. Prerequisite: HAE 605 or instructor’s consent. H 24 560 O 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 basic types of research survey and experimental and statistical techniques, including correlation coefficients, analysis of variance, chi square and two-way analysis of variance. Prerequisite: departmental consent. H 24 605 4 1201
684, Health Administration Policy. (3). Cross-listed as Mgmt. 684. Course designed to give graduating seniors an understanding of the structure of health care organizations, including the various roles and responsibilities managers have within these organizations. Exposure to management, policy making and planning processes is vital if students are to function in administrative positions in health care administration. Prerequisite: HAE 503 and at least one other HAE course for departmental consent. H 24 684 O 1202
685, Computer Applications in Health. (3). Deals with the utilization of technical assistance of micro and mainframe computer for operational research and investigative purposes. Emphasis on the role of computer in health care delivery systems and the role of computer and information processing agencies such as hospital, governmental health agency, and governmental health agency administration. A written report is required. Prerequisite: departmental consent. H 24 685 O 1201
686, Seminar in Health Care Administration. (3). In-depth discussion and analysis of selected topics in health care administration. Topics vary from semester to semester and include examination of specific financial, managerial, and economic characteristics of health service organizations and agencies. Prerequisites: HAE 503 and at least one other HAE course. H 24 686 9 1202
720, Community Health Organization and Administration. (3). Introduction to the organization and activities in the health system including clinical services in a health setting. Prerequisites: HAE 503 and at least one other HAE course. H 24 720 0 O 1201
725, Health Care Marketing. (3). This course in marketing management for health services examines the problem of organization.
tional response to consumer desires and needs. Consumer behavior and development of marketing mix, product policy and market strategy appropriate to the specific situations of various health care institutions are covered. Prerequisite: MKT 300 or equivalent or departmental consent. H 24 725 0 1202

808. Epidemiology of Chronic Disease. (3). The study of the distribution and determinants of chronic diseases and injuries in human populations. The frequencies and types of illnesses and injuries in groups of people and the factors that influence their distribution. Prerequisites: graduate school enrollment, HAE 605 or instructor's consent. H 24 806 0 1201

810. Health Care Financial Management. (3). Designed to give state-of-the-art techniques in health care accounting and to provide a comprehensive coverage of financial theories and applications in health care. Prerequisite: instructor's consent. H 21 810 0 1202

Health Science

Department of Health, Administration and Gerontology

A variety of applied/clinical courses in the basic health sciences are offered. These courses are applicable to several departments within the college at the undergraduate and graduate levels.

The programs leading to the Bachelor of Health Science, the Master of Health Science and the Master of Arts in Gerontology are administered by the Department of Health, Administration and Gerontology. For more information about the master's degree program, refer to The Wichita State University Graduate Bulletin.

Bachelor of Health Science

The program leading to a Bachelor of Health Science degree builds upon the foundation of an associate degree or other appropriate credential in an allied health area. The program offers additional study in health science, management or education, research or statistics and aging studies. Graduates of the program are prepared to expand their roles in health service areas and further their education in selected graduate programs such as the master's degree in health science or gerontology.

Admission to the program requires that students have completed an associate degree or have post-secondary health credentials, hold a grade point average of 2.000 or higher, have completed the basic skills component of the WSU general education program and be admitted to the College of Health Professions.

Degree Requirements. In addition to the WSU general education and basic skill requirements, the student is required to complete 27 credit hours in the following areas: health science (9), management or education (9), research or statistics (3) and aging studies (4). A total of 124 hours which includes these specified requirements is essential for graduation.

Course   Hrs.

Health Science—9 hours from the following
HS 361, Pharmacology  3
HS 331Q, Nutrition  3
HS 400, Pathophysiology  3
HS 531, Applied Principles of Nutrition  3
HS 575C, Physiology of Special Cases  3

Management and Education—9 hours from the following
HAE 410, Community Health Concepts  3
HS 591, Instructional Design in Health Education  3
HAE 503, Organization/Administration in the Health Care System  3
HAE 504, Health Economics  3
HAE 505, Politics of Health  3
HAE 507, Health Planning  3
HS 575A, Legislative Aspects  3
HS 575B, Survey Techniques in Marketing  3
HAE 590, Legal Aspects of Health Care Administration  3

Research and Statistics—3 hours from the following
DH 462, Special Problems in Dental Hygiene  3
HAE 605, Health Services Research  3
HAE 685, Computer Applications in Health  3
or any 3 hour statistics course
Aging Studies—6 hours from the following
Geron. 513, Sociology of Aging  3
Geron. 550D, Health Maintenance of the Older Adult  3
Geron. 550F, Aging-Work-Retirement  3
or other courses recommended by the adviser.

Students interested in the program should contact the College of Health Professions' dean's office for advising and further information.

Lower-Division Courses

101. Emergency Care: First Responder. (3). This course is designed specifically to meet the needs of the general public who respond to the initial care of emergency situations in the home or in public areas. Participants learn to provide vital, stabilizing and often urgent life support care prior to the arrival of ambulance personnel. Also, students are certified in basic cardiopulmonary resuscitation according to the standards of the American Heart Association. Prerequisite: departmental consent. H 18 101 2 1201

110. Basic Emergency Medical Care Training. (5). 4R; 2L. Principles of basic emergency medical care are identified. Classroom instruction includes anatomy, physiology and emergency recognition and care of medical emergencies and trauma-related injuries. Practicum and discussion provide the opportunity to apply these principles. Students also spend ten hours in hospital observation. Prerequisite: departmental or instructor's consent. H 18 110 1 1201

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

231. Clinical Anatomy of the Thorax. (1). 1R; 2L. Fall semester. Presents the structure and mechanisms of the thorax, including the neuromuscular, skeletal, cardiovascular and respiratory systems. Laboratory includes the use of human cadavers and models. Prerequisites: Respiratory therapy major and instructor's consent. H 18 231 0 1042

231G. Current Issues in Food and Nutrition. (3). A survey course that examines various controversies, fads and misconceptions surrounding nutrition and health; the cultural and historical aspects of food in America; and the political aspects of food and farm policy. The course includes the basic nutrition principles that are needed to fully understand the issues discussed. H 18 231G 0 0424

Upper-Division Courses

301. Clinical Pharmacology. (3). A survey of therapeutic terms, drug actions, dosage, toxicology and application of drugs in the clinical setting. Prerequisites: Biol. 225 and 226 or equivalent or Chem. 1030 or equivalent or instructor's consent. H 18 301 0 1201

310. Gross Anatomy, Section A: (3). Section B: (3). 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 human cadavers. Open to nonphysical therapy majors. Prerequisite: departmental consent. H 18 310 0 1042

315. Head and Neck Anatomy. (2). An in-depth study of the landmarks, muscles, nerves, vascular supply, etc., of the head and neck region. H 18 315 0 1201

331Q. Principles of 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 to various clinical conditions is given. H 18 331Q 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 select the number of credit hours needed for students within their program. Prerequisite: instructor's consent. H 18 385 2 1201
This course presents the background health disciplines. Course organized as in-sessional, topic or concept-based. Topics may be presented in lecture, discussion, group interaction and individual problem solving and situational analysis projects. Course provides information pertinent to management majors, department directors, shift supervisors and staff personnel who need an understanding of departmental management of clinical revenue generation and deployment. Prerequisites: senior or graduate standing in one of the professional programs or instructor's consent. H 18 501 0 1201

510. Clinical Departmental Management. (3). Concepts and methods of clinical department management are presented through lectures, discussion, group interaction and individual problem solving and situational analysis projects. Course provides information pertinent to management majors, department directors, shift supervisors and staff personnel who need an understanding of departmental management of clinical revenue generation and deployment. Prerequisites: senior or graduate standing in one of the professional programs or instructor's consent. H 18 501 0 1201

511. Neuroanatomy and Neurophysiology. (3). Study of the structure, physiology and functions of the central and peripheral nervous systems. Prerequisite: H 310 or CDS 214. H 18 511 1 0425

521. Independent Study. (1-6). Offered each semester. A course designed to assist health professionals in completing 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

531. Applied Principles of Nutritional Support and Therapy. (3). A study of the principles of nutritional support and diet therapy. The dietary concerns of a variety of clinical disorders are investigated. These include gastrointestinal disorders, diabetes mellitus, cancer, burns, obesity, weight loss, kidney disease, gastrointestinal disorders, parenteral and enteral nutrition and surgical conditions. Nutritional assessment, data interpretation, case plan development, record keeping and client communications are discussed. Prerequisite: H 331 Q or instructor's consent. H 18 531 0 1204

550. Advanced Perinatal Cardiorespiratory Care. (3). Cross-listed as RT 550. Focuses on diagnostic and therapeutic modalities and equipment used in the care of high risk mothers and infants. Topic include equipment and techniques used in neonatal intensive care centers: high frequency ventilation, ECMO, air transport, and so on. Emphasis on the respiratory care and medical management of critically ill newborns. Prerequisite: RT 450 and 203 or instructor's consent. H 18 550 1 1299

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 sexuality to the biological, psychological and cultural aspects of sexuality to the helping professions. Open to nonnursing majors. H 18 570 0 1203

575. Special Topics or Selected Topics. (1-4). A lecture/discussion course focused on a discrete area content relevant to the health disciplines. Course organized as in-depth study of a particular topic or concept, including didactic and current research findings and technological advances relevant to the topic. Open to nonmajors. Repeatable up to six credit hours with departmental consent. H 18 755 0 1201

701. Issues in Health Care. (3). An in-depth look at current issues facing health professionals. Topics may be presented in lecture, small groups, simulation and with guest speakers. Trends in health care, ethics, consumerism and current research findings are presented. Topics may include: health care, promotion, ethics, consumerism and current research findings as they relate to current trends in the health professions. Prerequisite: graduate standing. H 18 701 0 1201

703. Evaluation in the Health Professions. (3). This course presents the background and methods for evaluating performance in the health professions. The planning, development and use of evaluation tools in the clinical setting are emphasized as well as the planning and evaluation of continuing education programs. H 18 703 0 1201

704. Continuing Education in the Health Professions. (3). Planning, implementation and evaluation of continuing education programs for the health professions. Review of existing continuing education models and consideration of alternative systems. H 18 704 0 1201

705. Health Services Research. (3). An examination of statistical research methods used by health care professionals and organizations. Topics include presentation of interpersonal relationships, professional and non-professional, analysis of research, probability, expectation, sampling distributions, hypothesis testing, analysis of variance and simple regression designs. Prerequisite: upper-division statistics course or consent of MHS graduate coordinator. H 18 705 0 1201

706. Characteristics of the Adult in Professional Education. (3). This course is designed to help students understand the process of accomplishing professional development throughout the lifespan of the individual health care provider. By examining the historical and professional orientation to health care, professional upper-division students enrolled in the College of Health Professions. The course focuses on the essential mechanisms of disordered function which produce common diseases. Some common diseases are discussed, but as examples of the basic processes covered, not as a part of an exhaustive inventory. The purpose of the course is to present the health professional with accessible, usable and practical information they can easily and quickly apply in their clinical or laboratory experience, or use as a basic pathophysiology course before taking the more specific professionally related pathophysiology courses. Prerequisite: instructor's consent or enrollment in upper-division CHP professional courses. H 18 400 0 1201


421. Applied Clinical Pharmacology I. (3). A course designed to provide the student with a practical knowledge of pharmacotherapeutics and the pharmacodynamic and toxicologic properties of chemotherapeutic agents and of drugs affecting the cardiovascular and autonomic nervous systems. Prerequisites: H 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: H 421 and instructor's consent. H 18 422 0 1201

430. Introduction to Fluids and Electrolytes. (2). Concepts of fluid and electrolyte balance in health and disease; included are discussion of the clinical cases of diagnostic and therapeutic interest. Prerequisites: Chem. 103Q, Biol. 226 or equivalent and departmental consent. H 18 430 0 1201

450. Workshop in Health Sciences. (1-4). H 18 450 2 1201
712. Administration of Hospital-Based Education. (3). This course introduces students to the administration of hospital-based education, with a focus on health care resources in both the public and private sectors. It covers the historical perspective of hospital education, the roles of hospital administrators, and the development of educational services. 

714. Quality Assessment and Assurance for Health Care Institutions. (3). This course introduces students to the organizational and activities relevant to quality assessment in both inside and outside the institution—roles and responsibilities. It focuses on quality assurance problem-solving as a structured process. Prerequisite: instructor’s consent. H 18 714 0 1201

750. Workshop in Health Related Professions. (1-4). An examination of relevant topics directly and/or indirectly related to the delivery of health care services. H 18 750 2 1201

800A. Seminar in Health Science. (1). Recent developments and issues affecting the financing, organization and management of health care resources in both the public and private sectors of our nation’s medical care system. Prerequisite: HS 701 or departmental consent. H 18 800A 9 1201

800B. Seminar in Health Education. (1). Current trends and directions in allied health education in both patient care and academic settings are covered. Prerequisite: HS 701 or departmental consent. H 21 800B 9 1201

810. Practicum/Project. (3). The course is designed to enhance and complement the academic experience of students pursuing the Master of Health Science degree. This learning experience provides an opportunity to link the student’s academic studies with actual practice in direct observation and supervised participation in the administrative/educational process in a selected health care organization. Students participating in this experience carry out their assigned tasks under the guidance and direction of a faculty member of the College of Health Professions. Along with the faculty person, the student may also be under the direction of a field instructor/preceptor from the host agency. H 18 810 2 1201

885. Thesis. (1-3). Repeatable to a maximum of six hours. Prerequisite: consent of thesis adviser. H 18 885 4 1201

Medical Record Administration Program

Department of Health, Administration and Gerontology

Bachelor of Science in Medical Record Administration

The Bachelor of Science program in Medical Record Administration, offered through the Department of Health, Administration and Gerontology, is designed to prepare administrators and health information coordinators for medical record departments. After completion of a three-year preprofessional sequence at The Wichita State University, students must transfer to the Department of Medical Record Administration at The University of Kansas Medical Center (KUMC) to complete the professional sequence. The professional sequence includes directed practice and clinical application which may be taken at hospitals or other health institutions that are officially affiliated with The University of Kansas Medical Center and that are approved by the American Medical Record Association. After completing these requirements, students receive the Bachelor of Science (BS) in medical record administration from The Wichita State University and are eligible to become registered by successfully completing the registration examination given by the American Medical Record Association.

Preprofessional Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications (12 hours)</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking, or Comm. 112, Basic Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 210, Technical Writing Composition</td>
<td>3</td>
</tr>
<tr>
<td>Distribution Courses (30 hours of which at least nine hours must be taken in General Studies courses)</td>
<td></td>
</tr>
<tr>
<td>Division A, Humanities and Fine Arts (at least nine hours in three different departments)</td>
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</tr>
<tr>
<td>Division B, Social and Behavioral Sciences (at least six hours in two different departments)</td>
<td></td>
</tr>
<tr>
<td>Division C, Math and Natural Sciences (six hours in two different departments)</td>
<td></td>
</tr>
<tr>
<td>Math. 111, College Algebra (or equivalent)</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 105G, The Human Organism (4) or any higher level biology course</td>
<td>4</td>
</tr>
<tr>
<td>Biol. 225, Human Anatomy (with lab)</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 226, Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 227, Physiology Lab</td>
<td>1</td>
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<tr>
<td>Plus five additional hours chosen from biology, chemistry or physics</td>
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<tr>
<td>Other required courses</td>
<td></td>
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<tr>
<td>B. Law 1300, Introduction to Law</td>
<td>3</td>
</tr>
<tr>
<td>IS 704, Introduction to Education Statistics</td>
<td>3</td>
</tr>
</tbody>
</table>

Recommended electives

- CS 105, Introduction to Computers 3
- Mgmt. 360, Concepts of Administration 3
- Pers. 466, Personnel Management 3
- HAE 410, Community Health Concepts 3
- HAE 503, Organization and Administration of the Health Care System 3
- HAE 504, Health Economics 3
- HAE 505, Politics of Health 3
- HAE 507, Health Planning 3
- HAE 509, Health Care Operations Analysis 3
- HAE 590, Legal Aspects of Health Care Administration 3

Additional hours of electives to total 80 hours of preprofessional courses

Admission to Professional Curriculum

Students who have taken their college work at The Wichita State University or at another accredited college or university may apply for transfer into the fourth year of the program conducted at The University of Kansas Medical Center in Kansas City, Kansas. Applications must be received by October 1 of the student's junior year so that a January review can be made and the student notified of acceptance into the program that begins in June. Each student must:

1. Submit official transcripts of high school and college work from each institution attended.
2. Have a minimum grade point average of 2.500.
3. Be accepted by the KUMC admissions committee.

A total of 132 credit hours, including 80 credit hours in the preprofessional curriculum and 52 credit hours in the professional curriculum, is required for graduation.

Medical Technology

Department of Clinical Sciences

The medical technologist's role in the health care team is to accurately and precisely perform laboratory procedures in order to aid in the prevention, diagnosis and treatment of diseases. Most medical technologists are employed in medical laboratories in settings such as hospitals, clinics, reference labs and physicians' offices. The medical technologist also has the skills necessary for employment in related areas such as laboratory and pharmaceutical sales; quality assurance in industries such as food, beverage, chemicals, milling and plastics; office laboratory consulting; toxicology; research; and veterinary medicine.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example: 2R, 3L, means two hours of lecture and two hours of lab.
Bachelor of Science in Medical Technology

The Bachelor of Science program in medical technology, requiring a total of 133 hours, includes 78 hours of premedical technology curriculum in the basic sciences, social sciences, humanities and communication. The University-based program includes structured lecture and laboratory experiences in the University’s student clinical laboratory as well as in the program’s affiliated laboratories: St. Joseph Medical Center, HCA Wesley Medical Center, the Wichita Clinic and the Veterans Administration Medical Center, Wichita; William Newton Memorial Hospital, Winfield; Hutchinson Hospital Corporation, Hutchinson; and Hertzler Clinic, Halstead. In addition, experience is received in small clinical laboratories through a one-week rotation at Internal Medicine Associates and The Laboratory, Inc. in Wichita. Upon successful completion of the program, students are granted the Bachelor of Science in medical technology and are eligible to take several national certification examinations.

Preprofessional Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Skills</td>
<td>12</td>
</tr>
<tr>
<td>Eng. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Eng. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking, or Comm. 112, Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Math. 111, College Algebra 3</td>
<td></td>
</tr>
<tr>
<td>Division A, Humanities and Fine Arts (9 hours)*</td>
<td></td>
</tr>
<tr>
<td>Nine hours in at least three different departments</td>
<td>9</td>
</tr>
<tr>
<td>Division B, Social and Behavioral Sciences (6 hours)</td>
<td></td>
</tr>
<tr>
<td>Psy. 111Q, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>Division C, Natural Sciences and Mathematics (46 hours)</td>
<td></td>
</tr>
<tr>
<td>Biol. 203Q, Organismal Biology</td>
<td>5</td>
</tr>
<tr>
<td>Biol. 204, Cellular Biology</td>
<td>5</td>
</tr>
<tr>
<td>Biol. 226, Elementary Human Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Biol. 330, General Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 112Q, General and Inorganic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Course coverage in inorganic chemistry (Chem. 531, five hours, or Chem. 533 and 534, five hours)</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 561, Introduction to Biochemistry, or HS 400, Introduction to Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 405Q, Medical Immunology</td>
<td>3</td>
</tr>
<tr>
<td>Electives from areas of health science, biological sciences, chemistry, physics, mathematics or others as approved by the Department of Clinical Sciences (including four hours of &quot;G&quot; and/or &quot;Q&quot; courses)</td>
<td>7</td>
</tr>
</tbody>
</table>

* Students may wish to select General Studies courses to satisfy the University graduation requirement of General Studies courses. (See Academic Information—General Studies section of the Catalog.)

† May substitute Chem. 123Q-124Q, General and Analytical Chemistry (10 hours), if prerequisites are met. Check with adviser.

Admission to the Professional Curriculum

Applications should be submitted to the Department of Medical Technology by May 1 for fall entry, October 1 for spring entry, and March 1 for summer entry. To qualify as a candidate for admission to the professional phase the student must:

1. Be admitted to The Wichita State University
2. Be in the process, or have completed, the preprofessional requirements
3. Submit application to department
4. Submit three letters of recommendation
5. Have a minimum GPA of 2.000
6. Complete professional goal statement.

Acceptance into the professional phase of the program is determined by the Medical Technology Admissions Committee.

Professional Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Med. T. 400, Special Topics</td>
<td>2</td>
</tr>
<tr>
<td>Med. T. 406, Foundations of Laboratory Practice</td>
<td>2</td>
</tr>
<tr>
<td>Med. T. 450, Clinical Chemistry I Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 451, Clinical Chemistry I Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Med. T. 452, Analysis of Body Fluids</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 456, Clinical Chemistry II Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 457, Clinical Chemistry II Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Med. T. 459, Applied Clinical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 460, Hematology I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Med. T. 461, Hematology I Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Med. T. 462, Hemostasis</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 466, Hematostology II</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 467, Hematology II Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Med. T. 469, Applied Hematology</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 470, Immunohematology I Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>Med. T. 471, Immunohematology I Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Med. T. 476, Immunohematology II Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Med. T. 477, Immunohematology II Laboratory</td>
<td>1</td>
</tr>
</tbody>
</table>

Med. T. 479, Applied Immunohematology | 3 |
Med. T. 480, Clinical Immunology I Laboratory | 1 |
Med. T. 483, Clinical Immunology I Laboratory | 1 |
Med. T. 489, Applied Clinical Techniques | 2 |
Med. T. 490, Clinical Microbiology I Laboratory | 3 |
Med. T. 491, Clinical Microbiology II Laboratory | 3 |
Med. T. 496, Clinical Microbiology II Laboratory | 2 |
Med. T. 497, Clinical Microbiology II Laboratory | 1 |
Med. T. 498, Applied Clinical Microbiology | 3 |

Other Requirements

Students must purchase laboratory jacket/coat for use during their clinical laboratory assignments and are required to provide their own transportation to the clinical sites. Students are required to purchase professional liability insurance in the amount of not less than $100,000/$300,000. Students must provide evidence of a completed physical examination, including a tuberculin skin test and rubella titer, prior to their clinical assignments in the affiliated laboratories.

Lower-Division Courses

160Q. Introduction to the Clinical Laboratory Sciences. (2). 1R, 2L. A study of clinical laboratory disciplines, including hematology, immunohematology, chemistry, microbiology, cytology and histology, through an examination of laboratory testing in each discipline with consideration of the role of the clinical laboratory in the health care system. This course is suitable for majors to explore career options and nonmajors who may be interested in clinical laboratories as a health professional or as a consumer. H 14 160Q 1 1223

281. Cooperative Education. (1-8). The goal of this course is to provide the student with a work placement that integrates a plan for a new professional career with a supervised field experience designed to complement and enhance the student’s academic program. Individualized programs are developed by the student in consultation with and approved by appropriate faculty sponsors and the cooperative education coordinator. Repeatable for credit. Prerequisites: basic requirements for admission include successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. H 14 281 1 1223

310. Clinical Laboratory Services. (3). 2R, 2L. This course is an overview of the services and procedures performed by the clinical laboratory. Basic procedures and interpretation of data will be emphasized. Prerequisite: admission to a professional phase of a CHP program and/or instructor’s consent. H 14 310 1 1223
# Upper-Division Courses

400. Special Topics. (2). A study of the principles and methodologies of laboratory management and supervision and teaching techniques applicable to the clinical laboratory. Prerequisites: departmental consent. H 14 400 2 1223

405Q. Medical Immunology. (3). An introduction to the study of immunological concepts as they apply to the study, prevention and causation of the disease process. Prerequisite: Biol. 226. H 14 405Q 0 1223

406. Foundations of Laboratory Practices. (2). An introduction to clinical laboratory skills and principles of laboratory safety, specimen collection and processing, medical terminology and use and care of the microscope. Prerequisite: departmental consent. H 14 406 0 1223

411. Special Topics. (1-6). Supervised intensive study of special topics and problems related to health professions. Repeatable to a maximum of six hours. Prerequisite: department chairperson's consent. H 14 411 3 1220

451. Clinical Chemistry I Laboratory. (2). 6L. Application of the theory of the procedures and techniques used for colorimetric spectrophotometric and titrimetric analysis of serum and other body fluids for clinically significant substances. H 14 451 1 1223

452. Analysis of Body Fluids. (3). 2R; 1L. This course includes the study of renal physiology, routine urinalysis and renal function tests. It also encompasses the principles and techniques involved in the analysis of cerebrospinal fluid, feces, gastric fluid, synovial fluid, amniotic fluid, ascitic fluid, pleural fluid, seminal fluid, and other body fluids. H 14 452 1 1223

456. Clinical Chemistry II Laboratory. (2). 6L. A laboratory course encompassing the applications of the principles of techniques appropriate to the evaluation of methodology, acid-base balance, advanced enzyme quantification, endocrinology and toxicity. Emphasis is placed on relationships existing between substances of the body and procedural development and evaluation. Prerequisite: Med. T. 450, 451 or departmental approval. H 14 456 0 1223

457. Clinical Chemistry II Laboratory. (2). 6L. A laboratory course encompassing the applications of the principles of techniques appropriate to the evaluation of methodology, acid-base balance, advanced enzyme quantification, endocrinology and toxicity. Prerequisite: Med. T. 456, concurrent enrollment or department approval. H 14 457 1 1223

477. Immunohematology II Laboratory. (1). 4L. Application of clinical chemistry procedures and techniques in the analysis of body fluids in a clinical laboratory setting. Prerequisites: Med. T. 457 and departmental consent. Offered Cr/NCR only. H 14 477 2 1223

460. Hematology I. (2). The course emphasizes the theory underlying basic procedures performed in the hematology laboratory and the relationship between these procedures and the diagnosis of disease. Prerequisites: Biol. 226 and departmental consent. H 14 460 0 1223

461. Hematology I Laboratory. (2). 3L. The course emphasizes performance of the basic procedures used in the hematology laboratory, including complete blood counts, smear and abnormal differentials and miscellaneous hematologic tests. Prerequisite: Med. T. 460 or concurrent enrollment and/or departmental consent. H 14 461 1 1223

462. Hemostasis. (3). 2R; 3L. Examination of the molecular mechanisms of the hemostatic mechanisms and associated diagnostic laboratory procedures utilized in evaluation of various hemostatic disorders. Prerequisites: Biol. 226, Med. T. 462, and departmental consent. H 14 462 1 1223

466. Hematology II. (3). The course emphasizes the clinical significance of laboratory data and its correlation with pathologic conditions. Material covered will include in-depth discussions of anemias and leukemias. Prerequisites: Med. T. 466 and departmental consent. H 14 466 0 1223

467. Hematology II Laboratory. (1). 3L. Emphasis is on special testing procedures used in the hematology laboratory for diagnosis of anemias and various white cell disorders such as leukemia. Prerequisites: Med. T. 466 or concurrent enrollment and departmental consent. H 14 467 1 1223

469. Applied Hematology. (3). Application of the theory and technical skills of hematology and immunology and genetics to blood group typing, antibody identification, direct antiglobulin evaluation, provision of safe blood or blood components for transfusion and resolution of discrepancies encountered in transfusion reactions. Offered Cr/NCR only. Prerequisites: Med. T. 467, 477 and departmental consent. H 14 469 2 1223

486. Clinical Immunology I. (1). An introduction to serological diagnosis in the clinical laboratory, including rationale of testing, methodologies, comparison of different methods, interpretation of test results and clinical correlations. Prerequisite: Med. T. 405Q or equivalent or consent of instructor. H 14 486 0 1223

487. Cooperative Education. (1-8). The goal of this course is to provide the student with a field placement that integrates theory with clinical experience. A personal, experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with the supervisor of Cooperating education coordinators. Prerequisites: The basic requirements for admission include successful completion of a satisfactory academic standing prior to the first job assignment. Repeatable for credit. H 14 487 1 1223

488. Clinical Immunology Laboratory. (1). 3L. A laboratory course in techniques relevant to serological diagnosis of the following conditions: syphilis, acute bacterial infections, candidiasis, streptococcal infections, febrile diseases, mycoplasma infections, infectious mononucleosis, rheumatoid arthritis and pregnancy. Prerequisite: Med. T. 480 or concurrent enrollment or consent of instructor. H 14 488 1 1223

489. Clinical Immunology Laboratory. (2). Application of theory and techniques of clinical immunology, serology, body fluids and specimens collection in the clinical laboratory. Offered Cr/NCR only. Prerequisites: Med. T. 406, 452, 480, 493 and departmental consent. H 14 489 2 1223

500. Clinical Microbiology I. (3). Basic theory covering (a) procedures for specimen processing in the clinical laboratory, (b) normal flora, (c) morphological, cultural and serological characteristics of common pathogenic bacteria and (d) basic theory in antimicrobial susceptibility testing techniques. Prerequisites: Biol. 330 and concurrent enrollment in Med. T. 491. H 14 490 0 1223


504. Special Topics in Clinical Microbiology. (2). 2R; 2L. The study of the medically important fungi and parasites with an emphasis on their identification in the clinical laboratory. Discussion of life cycles and their relation to the infection/disease process and the student's academic program. Individually designed programs must be formulated in consultation with the supervisor of Cooperating education coordinators. Prerequisites: Biol. 226, Med. T. 460 and departmental consent of instructor. H 14 497 1 1223
the epidemiology of these organisms. Prerequisites: Biol. 330 and Departmental consent. H 14 494 1 1223

496. Clinical Microbiology II. (3). Advanced theory, practice, and rationale for the isolation and identification of the nonfermenters, the anaerobic and unusual aerobic organisms. Discussion of disease processes and identification of the acid-fast bacteria. Introduction to advanced and hemotherapy susceptibility testing techniques. Prerequisites: Med. T. 490, 491, 497 or concurrent enrollment. H 14 496 0 1223

497. Clinical Microbiology II Laboratory. (1). 4L. Advanced laboratory techniques in the isolation and identification of nonfermenters, the anaerobic and unusual aerobic organisms. Techniques for cultures and identification of acid-fast bacteria. Advanced antimicrobial susceptibility testing techniques. Prerequisites: Med. T. 490 and 491 and concurrent enrollment in Med. T. 496. H 14 497 1 1223


Courses for Graduate/Undergraduate Credit

550. Clinical Endocrinology. (3). This course will describe endocrine hormones and their functions and the practical application of modern clinical laboratory methods for the diagnosis of functional hormonal disorders. Open to nonmajors in medical technology. Prerequisites: Biol. 226 or equivalent and Chem. 1030 or 1110Q or equivalent or instructor's consent. An understanding of biochemistry is recommended. H 14 550 0 1223

752. Method Evaluation and Selection. (3). This course will present an objective, practical approach to the evaluation of laboratory methodologies. This approach incorporates the use of statistical analysis, evaluation of technology and clinical application. Prerequisites: Med. T. 459, 469, 479 and 496, or equivalent, HS 70C or instructor's consent. H 14 752 0 1223

760. Hematologic Neoplasms. (3). This course deals with the etiology, pathophysiology and morphology of hematologic neoplasms and the health care practitioners interactions with persons with those disorders. H 14 760 0 1223

765. Advanced Clinical Hemostasis. (3). Advanced studies in the mechanisms of hemostasis, pathological changes that can occur in the hemostatic mechanism and the laboratory evaluation of those changes. Prerequisites: Med. T. 462 or instructor's consent. H 14 765 0 1223

770. Therapeutic Dimensions of Clinical Laboratory Science. (3). A study of the expanding role of the clinical laboratory in the monitoring of therapy and the patients' response to therapy. Areas to be addressed include hematology, microbiology, immunology, rejection phenomena and chemotherapy, including therapeutic drugs, electrolytes, vitamins, trace minerals and antimicrobials. H 14 770 0 1223

775. Advanced Clinical Pathophysiology. (3). Advanced studies in the mechanisms of the disease process and pathological changes that can occur in various pathophysiological states. Prerequisites: HS 400 or 15 hours of biology or instructor's consent. H 14 775 0 1223

780. Issues in Immunohematology. (3). 3R. An in-depth analysis of current issues in the modern transfusion and immunohematology service with emphasis on responding to changes in patient care through application in technology, research and supervision. Prerequisites: Med. T. 479 and HS 701 or instructor's consent. H 14 780 0 1223

790. Epidemiology and Infection Control. (3). A study of the expanding role of hospital personnel in the performance of hospital epidemiology and infection control. Areas to be addressed include basic epidemiological principles, basic considerations of hospital infections including investigations and surveillance, potential problem areas within the hospital environment, the role of the hospital laboratory and possible endemic and epidemic infections. Prerequisite: course in medical microbiology or instructor's consent. Taught in the fall semester. H 14 790 0 1223

800. Seminar in Laboratory Sciences. (1). Recent issues and advances in the field of clinical laboratory science, including the areas of microbiology, chemistry, hematology, immunology and immunohematology, are discussed. Students are responsible for assigned topics, using current journal articles as resource material. Prerequisite: departmental consent. H 14 800 9 1223

890. Thesis. (1-3). Repeatable to a maximum of six hours. Prerequisite: consent of thesis adviser. H 14 890 2 1223

Nursing

Department of Nursing

The Department of Nursing offers the Bachelor of Science in Nursing and the Master of Science in Nursing. For more information about the master's degree, refer to The Wichita State University Graduate Bulletin.

Bachelor of Science in Nursing

The Bachelor of Science in Nursing program is designed to prepare students for the practice of professional nursing. The graduate is prepared for beginning positions in nursing in any health care delivery system and for further study at the master and doctoral levels and for advancement to nursing positions of increasing responsibility and leadership. Nursing students have the opportunity for increased clinical experiences through an agreement between The Wichita State University and HCA Wesley Medical Center.

Students are admitted to the Department of Nursing at the junior year after completing 60-64 hours of course work. Persons interested in the Bachelor of Science in Nursing may direct inquiries to: Chairperson, Department of Nursing, The Wichita State University, Wichita, Kansas 67208-1595.

Preprofessional Curriculum

Students applying for admission to the Department of Nursing must have completed the following courses. Students should consider taking 16 hours per semester or attending Summer Session.

Courses

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Math. 109, 110, 111, 112 or 211</td>
</tr>
<tr>
<td>3</td>
<td>Eng. 101, College English I</td>
</tr>
<tr>
<td>3</td>
<td>Eng. 102, College English II</td>
</tr>
<tr>
<td>3</td>
<td>Comm. 111, Basic Public Speaking</td>
</tr>
<tr>
<td>3</td>
<td>Basic Interpersonal Communication</td>
</tr>
<tr>
<td>3</td>
<td>Phil. 100G, The Meaning of Philosophy</td>
</tr>
<tr>
<td>3</td>
<td>Six hours in two other departments (excluding performance and studio arts)</td>
</tr>
</tbody>
</table>

Division A—Humanities and Fine Arts (nine hours)

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Soc. 111Q, Introduction to Sociology</td>
</tr>
<tr>
<td>3</td>
<td>One elective in any department</td>
</tr>
</tbody>
</table>

Division B—Social and Behavioral Sciences (12 hours)

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Psy. 111Q, General Psychology</td>
</tr>
<tr>
<td>3</td>
<td>Psy. 334Q, Developmental Psychology</td>
</tr>
<tr>
<td>3</td>
<td>Three-hour requirement</td>
</tr>
</tbody>
</table>

Division C—Natural Sciences and Mathematics (24 hours)

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Biol. 225, Human Anatomy</td>
</tr>
<tr>
<td>4</td>
<td>Biol. 226, Elementary Human Physiology</td>
</tr>
<tr>
<td>3</td>
<td>Chem. 103Q, General Chemistry, or Chem. 111Q, General Chemistry</td>
</tr>
<tr>
<td>5</td>
<td>HCA Wesley Medical Center</td>
</tr>
<tr>
<td>3</td>
<td>HS 301, Clinical Pharmacology</td>
</tr>
<tr>
<td>3</td>
<td>Three-hour course in statistics with Department of Nursing approval</td>
</tr>
</tbody>
</table>

Electives (3-10 hours)

* Students should select some General Studies courses to meet the University graduation requirement of nine hours of General Studies courses and "O" courses to meet the 12-hour requirement. See Academic Information—General Education section of the Catalog.

Prerequisite to statistics may be required.

Admission To Department of Nursing

Students who have satisfactorily completed two semesters of lower-division courses may request an application form from the Department of Nursing. Application forms for fall semester admission are requested by January 1; for spring semester admission, by August 1. To qualify as a candidate for admission to the Department of Nursing, students must:
1. Be enrolled in, or admitted to, The Wichita State University.
2. Have completed, or have plans to complete, the lower-division requirements.
3. Have an overall grade point average of at least 2.50 in all courses completed and no grade lower than a C in any of the specified required courses.
4. Submit an application including expected semester of enrollment.

Registered nurse students, in addition to the above requirements, must:
1. Submit a photocopy of current license to practice as a registered nurse in Kansas.
2. Submit official transcripts of college courses and records from the school of nursing.

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 validate nursing credits at the upper-division level.

Professional Curriculum

The following courses in the Department of Nursing are required for the Bachelor of Science in Nursing. A total of 124 hours of University credit is required for graduation.

**Course** | **Hrs.**
---|---
**Division A—Humanities and Fine Arts (three hours)**
A three-hour upper-division course in philosophy/ethics to be selected with Department of Nursing approval.

**Division C—Mathematics and Natural Sciences (53 hours)**
Nurs. 327, Nursing as a Practice Discipline | 2
Nurs. 330, Technologies I | 2
Nurs. 332Q, Health Promotion and Self-Care | 2
Nurs. 334, Dimensions of Professional Nursing | 3
Nurs. 336, Design of Nursing Systems | 3
Nurs. 340, Technologies II | 2
Nurs. 347, Nursing Systems: Organic Disorders | 4
Nurs. 351, Nursing Systems: Behavioral Disorders | 2
Nurs. 352, Nursing Practice I | 3
Nurs. 354, Nursing Practice II | 2
Nurs. 400, Introduction to Pathophysiology | 2
Nurs. 460, Technologies III | 3
Nurs. 464, Nursing Systems: Aging Families | 3
Nurs. 465, Nursing Systems: Young Families | 3
Nurs. 466, Nursing Practice III | 3
Nurs. 468, Scholarship Dimensions of Nursing | 2
Nurs. 472, Nursing Practice IV | 6
Nurs. 473, Senior Seminar | 3
Nurs. 478, Nursing Systems: Large Groups | 5
Upper-division elective courses | 8-9

† A transition course designed to be taken by registered nurse students.
‡ At least one credit hour must be taken outside the Department of Nursing.

Other Requirements

Uniforms are required for all clinical laboratory experiences. Students are required to provide their own transportation to and from health care agencies used for these experiences. Lab fees may be assessed. Students are required to purchase professional liability insurance in the amount of $1 million per single claim/$3 million aggregate per year. The insurance must be renewed annually. Students must provide evidence of professional health insurance and evidence of a completed physical examination prior to clinical laboratory experiences each academic year. Additional costs for instructional materials, testing, lab experiences, etc., may be required throughout the program. CPR certification is required. Information related to these requirements is available from the Department of Nursing.

Upper-Division Courses

327. Nursing as a Practice Discipline. (2). An introductory course in the study of nursing within the self-care framework and its use in nursing practice, education, theory, and research. The student examines perceptions of the nurse, nursing as a practice discipline and as a student of nursing. Prerequisite: admission to the department of nursing or departmental consent. H 11 327 0 1203

330. Technologies I. (2). 6L. A series of learning experiences in which the student learns sets of manipulative, discriminative, communicative and interpersonal skills for use in the design and control of nursing systems for individuals and groups. Emphasis is placed on the scientific and humanistic basis for the various technologies. Prerequisite: admission to the department of nursing. H 11 330 1 1203

332Q. Health Promotion and Self-Care. (2). Self-care (health) practices and health status of individuals within ranges of wellness are studied. Emphasis is on the determinants which influence how universal self-care requisites are met. Open to nonnursing majors. Prerequisites: Engl. 101 and 102. H 11 332Q 0 1203

334. Dimensions of Professional Nursing. (3). A course designed to introduce registered nurse students to the study of nursing as a practice discipline and professional nursing roles. Emphasis is placed on the self-care concept of nursing and its use in professional practice, education and scholarship. Prerequisite: admission to department or departmental consent. H 11 334 0 1203

336. Design of Nursing Systems. (5). 3R; 6L. The study of knowledge, attitudes and skills for the design, implementation and evaluation of nursing systems for individuals. Methods of assistance and types of nursing systems are studied. Prerequisite: admission to department. Prerequisites or corequisites: enrollment in Nurs. 327 and 332Q. H 11 336 1 1203


347. Nursing Systems: Organic Disorders. (4). A course designed to study the design and control of nursing systems related to organic disorders, focusing on educative-supportive, and partly and wholly compensatory nursing systems appropriate to adults demonstrating major health problems in contemporary society. Prerequisites: Nurs. 327, 330, 332Q, 336, 400 or Phase I courses. Corequisites: Nurs. 340 and 352. H 11 347 0 1203

350. Workshops in Nursing. (1-4). An opportunity for intensive study of special topics related to nursing practice, education or research. Open to nonmajors. H 11 350 2 1203


352. Nursing Practice I. (3). 9L. This course provides the student opportunity to design and control nursing systems for adults with organic disorders, focusing on educative-supportive and partly and wholly compensatory nursing systems appropriate for adult client(s)/patient(s) demonstrating major health problems in contemporary society. Prerequisites: Phase I courses. Corequisites: Nurs. 340 and 347. H 11 352 1 1203

352H. Nursing Practice I, Honors. (3). 9L. A clinical course providing the student the opportunity to design and control nursing systems for adults with organic disorders, focusing on educative-supportive and partly and wholly compensatory nursing systems appropriate for adult client(s)/patient(s) demonstrating major health problems in contemporary society. The major emphasis of the course is the expanded development of the clinical nursing role. Prerequisites: Phase I nursing courses, GPA of 3.50 and instructor's approval. H 11 352H 1 1203

354. Nursing Practice II. (3). 6L. A clinical course on evaluation and use of nursing theory and research in the role of practitioner of nursing. The major emphasis of the course is the development of nursing agency in clinical nursing situations related to behavioral disorders. Prerequisites: Phase I courses. Corequisites: Nurs. 351. H 11 354 1 1203

400. Introduction to Pathophysiology. Cross-listed as HS 400. A course for professional upper-division students enrolled in the College of Health Professions. The course focuses on the essential mechanisms of disordered functions which produce common diseases. Some common diseases are discussed, but as examples of the basic processes involved, not as a part of an exhaustive inventory. The purpose of the course is to present the health professional with accessible, useable and practical information...
425-427. Special Projects in Nursing. (1-4). Elective. Individual study of selected topics, designed to develop professional and advanced clinical skills. Prerequisite: permission of instructor. H 11 425 2 1203, H 11 427 2 1203

432. Educational-Supportive Nursing Systems. (3). 2R; 3L. Elective. This lecture and clinical course focuses on the planning and implementation of patient education. The nurse’s role in patient education includes assisting the patients in decision-making, behavioral change, and acquiring knowledge and skills. The major emphasis of the course is the development of the nurse’s ability to use teaching methods in clinical nursing situations. This course builds upon the previous knowledge and experiences of identified prerequisite courses. The purpose of this course is to enhance the knowledge and abilities of the student to educate individuals and small groups in a clinical setting. Prerequisites: Nurs. 340, 347 and 352 or instructor’s consent. H 11 432 1 1203

434. Perioperative Clinical Management for the Nurse Agent. (3). 6L. This is an elective lecture/clinical course. It examines the nurse’s role in small groups that have various health problems requiring surgery. The focus is the expansion of the nursing student’s power to perform in deliberate and intentional relationship being of others in all phases of the surgical process (before, during and after). The major emphasis of the course is the nursing student’s acquisition of clinical management skills in all phases of the surgical process. Prerequisites: Nurs. 340, 347, 352 or completion of 30 hours of a professional nursing program. H 11 434 1 1203


464. Nursing Systems: Aging Families. (3). 2R; 3L. This course is designed to provide information and experience in the design of nursing systems for clients/patients experiencing expected changes in conjunction with normal and pathological changes associated with aging. Prerequisites: Nurs. 340, 347, 351, 352 and 354 or permission of instructor. Open to nursing majors who have a license to practice nursing. H 11 464 1 1203

465. Nursing Systems: Young Families. (3). The study of the design and control of nursing systems for young families in ranges of health states. Educative-supportive and partially compensatory systems appropriate for young families are the focus of this course. Prerequisites: Nurs. 340, 347, 351, 352 and 354. Corequisites: Nurs. 460 and 466. H 11 465 0 1203

466. Nursing Practice III. (3). 9L. A clinical course for evaluation and use of nursing and nursing-related research in the role of practitioner of nursing. The major emphasis of the course is the development of nursing agency in clinical nursing situations related to young families. Prerequisites: Nurs. 340, 347, 351, 352 and 354. Corequisites: Nurs. 460 and 465. H 11 466 1 1203

466H. Nursing Practice III, Honors. (3L). A clinical course for evaluation and use of nursing, nursing related theory and research in the role of the student. The major emphasis is the expanded development of the clinical nursing role related to young families. Prerequisites: Nurs. 340, 347, 351, 352 and 354; GPA of 3.250; and instructor’s approval. H 11 466H 1 1203

468. Scholarship Dimensions of Nursing. (2). The study of research methodology in nursing and its use in developing nursing knowledge. Students identify research problems and develop a research proposal. The uses of research findings in practice are discussed. Relations among the roles of practitioner, teacher, leader and scholar are examined. Prerequisites: Nurr. 340, 347, 351, 352 and 354. H 11 468 0 1203

472. Nursing Practice IV. (6). 18L. This practicum emphasizes the complexity of the delivery of nursing care to infants, children, adolescents, individuals and groups. The student practices clinical nursing in a health care setting to synthesize nursing knowledge with emphasis on the development of clinical nursing judgment and interpersonal skills. H 11 472 1 1203

473. Senior Seminar. (3). Course focuses on the leadership and management role of the nurse and the coordination of nursing care for groups of clients. Ethical-legal, economic, political and other professional issues related to nursing practice are examined. Prerequisites: Phase II courses. Corequisite: Nurs. 472 for generic students. H 11 473 0 1203

473H. Senior Seminar Honors. (3). Course focuses on the leadership and management role of the nurse and the coordination of nursing care for groups of clients. Ethical-legal, economic, political and other professional issues related to nursing practice are examined. Students complete an in-depth study of nursing practice and related leadership and/or management theories. Prerequisites: Phase II courses, concurrent enrollment in Nurs. 472, 3.25 GPA and departmental consent. H 11 473H 9 1203

476. Health Assessment. (3). Designed to help the registered nurse develop skills in health assessment, complete health history and head-to-toe physical assessment, as well as history and physical related to a chief complaint or specific problem, are addressed. The influence of various stages of growth and development on assessment techniques and findings are considered. Emphasis is on the assessment of health status through differentiating between normal, abnormal, and abnormal. The major emphasis of the course is the development of nursing agency in clinical nursing situations related to young families. The focus is health promotion throughout the life span.

481. Cooperative Education Field Study. (1-6). A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Prerequisites: permission of instructor. Not formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment, or alternating work full time with their field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: successful completion of at least one semester of a satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 11 481 2 1203

Courses for Graduate/Undergraduate Credit

505. Directed Study in Nursing. (1-4). Elective. Individual study of the various aspects and/or problems of professional nursing. Repeatable. Prerequisite: departmental consent. H 11 505 3 1203


543. Women and Health Care. (3). This course examines the historical development of the nurse and the health care system and as history and physical related to a chief complaint or specific problem, are addressed. The influence of various stages of growth and development on assessment techniques and findings are considered. Emphasis is on the assessment of health status through differentiating between normal, abnormal, and abnormal. The major emphasis of the course is the development of nursing agency in clinical nursing situations related to young families. The focus is health promotion throughout the life span.


700. Assessment of Pediatric and Adolescent Clients. (3). 2R; 3L. A theoretical and clinical laboratory experience in which students focus on the assessment of pediatric and adolescent clients. Open admission to RN and graduate students. H 11 700 1 1203

703. Foundations of Nursing. (3). Focuses on the nature of theory and the process of theory development. The historical development of nursing theory is traced and projections for the future are explored. Selected conceptual models of nursing are analyzed in terms of implications for nursing practice, nursing research and nursing education. Prerequisites: admission to Graduate School. H 11 703 0 1203
704. Health Maintenance of the School Age Child. (3). 2R; 3L. This course examines and applies major theories, clinical concepts and research studies related to school health nursing. Open to RN and graduate students. H 11 704 0 1203

705. Nursing Research. (3). Building on an initial seminar, this course is designed to assist the student in understanding premises which govern research design, implementation and evaluation. Consideration is given to current issues in nursing research, the researcher, the populations studied and the consumer of research. Prerequisites: statistics course accepted by the Department of Nursing, an undergraduate research course and admission to Graduate School. H 11 705 0 1203

706. Organization and Management of the School-Health Program. (3). 2R; 3L. This course examines and applies concepts of organization and management to the school-health delivery system: Political, economic and social factors which influence the organization and management to the school-health delivery system are explored. Open to RN and graduate students. H 11 706 0 1203

708. School Nurse Practicum. (2). 6L. An intensive clinical experience in which students analyze, design, implement and evaluate nursing systems to promote the health of individuals in the school-health delivery system and the broader community system. Open to RN and graduate students. H 11 708 1 1203

711. Issues in Nursing. (3). Various issues in professional nursing are analyzed. Course focuses on issues ranging from concerns within the local practice setting to national policy issues. Theories uniquely suited to policy formation in health care systems are examined. Prerequisite: admission to Graduate School. H 11 711 0 1203

733. Diabetes Mellitus Nursing. (3). Exploration of clinical theories and appropriate nursing systems for clients with diabetes mellitus are identified and studied. Emphasis is on understanding optimal levels of functioning and the psychological adjustment of the client and family to a potentially devastating disease. H 11 733 0 1203

734. Diabetes Mellitus Nursing Practicum. (3). An intensive clinical experience in which the student is expected to study, design and implement nursing systems for individuals or groups in the area of diabetes mellitus nursing management. A weekly one hour seminar will accompany the practicum. H 11 734 1 1203

750. Workshops in Nursing. (1-4). An opportunity for the concentration of course work related to nursing practice, education or research. Open to non-majors. H 11 750 2 1201

791. Special Studies in Nursing. (1-6). A course allowing opportunity for students to engage in extensive study of particular content and skills directly or indirectly related to nursing practice. Prerequisite: admission to Graduate School and departmental consent. H 11 791 0 1203

796. 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 and departmental consent. H 11 796 2 1203

799. Directed Readings in Nursing. (1-2). An opportunity for the student to engage in critical study of the literature in areas related to the profession and practice of nursing. Prerequisites: admission to Graduate School and departmental consent. H 11 799 3 1203

Courses for Graduate Students Only

807. Clinical Nurse Specialist: Role. (3). This the first of a two-course series designed for the student preparing for the clinical specialist role. Discussed will be the historical development of the clinical nurse specialist role: the ethical, legal, political and economic issues affecting such a role; and the current trends and standards for the role. Components of the clinical nurse specialist role will be identified and approaches for implementation will be examined. Prerequisite: completion of at least 6 hours of a clinical concentration. H 11 807 0 1203

808. Clinical Nurse Specialist Practicum. (3). The second of a two-course sequence designed for the student preparing for the clinical specialist role. It is an intensive practicum experience in which the student works with a clinical specialist nurse preceptor in a selected clinical setting. Emphasis is on role development and analysis of strategies to improve nursing practice. Prerequisites: completion of 6 hours of a clinical concentration and Nurs. 807 (or concurrent enrollment). H 11 808 2 1203

811. Foundations of Nursing Administration. (3). This course is designed to assist the student in acquiring theoretical knowledge of organizations. Consideration is given to the role of the nurse in nursing administration and impact on nursing practice. Prerequisites: departmental consent prior to registration. Prerequisites or corequisites: Nurs. 703, 705 and 711. H 11 811 0 1203

812. Nursing Administration Practicum. (3). A practicum in a nursing administration setting in which the student, under professional guidance, can become directly involved. A seminar accompanies the field experience. Types of experience may include roles in nursing education or service, midlevel nursing administration, staff development or community health. May be repeated twice for a maximum of 6 credit hours in conjunction with Nurs. 811 or 819 (or concurrent enrollment). H 11 812 2 1203

813. Foundations of Nursing Education. (3). Designed to assist the student to explore theoretical and practical aspects to curricular development and teaching of nursing in higher education and continuing education. Prerequisites: departmental consent. Prerequisites or corequisites: Nurs. 703, 705 and 711. H 11 813 0 1203

814. Nursing Education Practicum. (3 or 6). An experience of nursing education in which the student, under professional guidance, becomes directly involved in clinical and classroom teaching, curriculum development and participation in other faculty functions in higher education and continuing education. A seminar accompanies the field experience. Prerequisites: departmental consent. Prerequisite: Nurs. 813. H 11 814 2 1203

819. Foundations of Psychiatric Mental Health Nursing. (3). Major theories, clinical concepts and current research in psychiatric/mental health are evaluated in relation to formulating a conceptual model for nursing practice. Prerequisites: Nurs. 703, 705, 711. H 11 819 0 1203

821. Thesis. (1-6). Graded S/U only. 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 and departmental consent prior to registration. H 11 821 3 1201

822. Psychiatric/Mental Health Nursing Practicum I. (3). An intensive clinical experience in which the student plans, implements and evaluates interventions for psychiatric/mental health diagnoses with individual clients/patients. A seminar accompanies the practicum. Prerequisite or corequisite: Nurs. 819. H 11 822 2 1203

823. Graduate Project: Alternative to Thesis. (1-3). Graded S/U only. An opportunity to develop and pursue a scholarly project other than a thesis. May take the form of a position paper, research, a philosophical paper or other type project developed in conjunction with the student's advisor. Prerequisites: admission to Graduate School and departmental consent. H 11 823 4 1201

825. Independent Study. (1-6). Independent study provides opportunity for the student to develop, in collaboration with a departmental faculty member, objectives and course work for independent work related to the practice of nursing. Prerequisites: admission to Graduate School and departmental consent. H 11 825 3 1201

827. Resource Management in Nursing. (3). Course focuses on the assessment of human and material resources and information systems needed to manage nursing care delivery. Nursing Personnel Management, patient classification systems, costing out of nursing services, strategic planning and other topics. Prerequisites: Prerequisite or corequisites: Nurs. 703, 705 and 711. H 11 827 0 1203

829. Foundations of Maternal-Child Nursing. (3). This course provides the foundation for all courses in the maternal-child clinical concentration. Seminars enable students to investigate major theories, clinical concepts and research studies related to maternal-child nursing. Prerequisites: Nurs. 705, 707 and 711. H 11 829 0 1203

832. Maternal-Child Nursing: Practicum I. (3). An intensive clinical experience in which the student utilizes role concepts of systematic assessment of individuals and groups within a family system. A seminar accompanies the practicum. Prerequisite or corequisite: Nurs. 829. H 11 832 1 1203

833. Adult Nursing I. (3). This course will examine clinical concepts and issues related to the maintenance of health states of adults. Emphasis is placed on assessment, measurement and nursing interventions related to these concepts. Prerequisites: Nurs. 703, 705 and 711. H 11 833 0 1203

834. Adult Nursing Practicum. (3 or 6). An intensive clinical experience in which the student is expected to design, implement and evaluate nursing care for adults. Specialized areas of study are selected and may include health maintenance or illness care of acutely or chronically ill adults. Practicum sites may include hospitals, extended care facilities, and agencies with a primary focus on adult care. Prerequisites: Nurs. 703, 705 and 711. H 11 834 0 1203

The following abbreviations are used in the course descriptions: A stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of laboratory.
In the College of Education, students must take three courses: ISFE 428, Social and Cultural Foundations of Education (two hours), or ISFE 701, Foundations of Education (three hours); IPP 601, Introduction to Exceptional Child (three hours); and IS 490 or 890, Independent Study (one hour).

In addition, students must take courses in the College of Health Professions: NURS 700, Assessment of Pediatric and Adolescent Clients (three hours), or an equivalent course determined by the Department of Nursing; NURS 704, Health Maintenance of the School Age Child (three hours); NURS 706, Organization and Management of the School-Health Program (three hours); and HURS 708, School Nurse Practicum (two hours), optional.

The total program requires 17-18 credit hours.

**Physical Therapy**

**Department of Physical Therapy**

The physical therapy professional program prepares students to become health care professionals who work with patients disabled by illness or accident or born with a handicap. Physical therapists also work to prevent functional disability and to maintain health. They evaluate neuromuscular, musculoskeletal, sensorimotor and related functions to determine the degree of muscle strength, motor development, motion, respiratory ventilation and/or peripheral circulatory efficiency.

Physical therapists plan and implement treatment programs based on test findings after a referral from a licensed physician or dentist. Treatments by physical therapists include exercises for increasing strength, endurance, coordination and range of motion; stimuli to facilitate motor activity and learning; instruction in activities of daily living and the use of assistive devices; and the application of physical agents, such as heat, cold, sound and water, to relieve pain or alter physiological status. In addition, they try to motivate patients, their families and others involved in the prevention and treatment of functional disabilities.

Bachelor of Science in Physical Therapy

The baccalaureate program includes two years of prephysical therapy study in the natural and social sciences, communication and humanities followed by two years (four semesters plus one summer) in advanced sciences, professional study and clinical education. The Bachelor of Science in physical therapy is awarded to those who satisfactorily complete the program including those who enter the professional program with a degree in another field. This program is fully accredited and graduates are eligible to take the examinations required for state licensure.

The Department of Physical Therapy has been approved by the Kansas Board of Regents to offer a Master of Physical Therapy degree beginning fall 1990. Students who begin as freshmen in fall 1988, and all others who plan to enter the professional program in fall 1990 and after, will follow the requirements for the Master of Physical Therapy curriculum. More information about that program is available from the Department of Physical Therapy.

**Preprofessional Curriculum**

Students who intend to apply for admission into the physical therapy professional curriculum must complete the following courses. They must also complete the requirements for a baccalaureate degree, using the first year of the professional program for the senior year of the baccalaureate degree, or complete the following courses and a baccalaureate degree prior to entering the first year of the professional program.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>Communications (nine hours)</td>
<td></td>
</tr>
<tr>
<td>Engl. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Engl. 102, College English II</td>
<td></td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking, or Comm. 112, Interpersonal Communication</td>
<td>3</td>
</tr>
</tbody>
</table>

**Division A—Humanities and Fine Arts (nine hours)**

Nine hours in at least three different departments

**Division B—Social and Behavioral Sciences (nine hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Psy. 111Q, General Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Soc. 111Q, Introductory Sociology</td>
<td>3</td>
</tr>
<tr>
<td>Psy. 414, Child Psychology, Psy. 404, Psychology of Aging; Psy. 514, Psychology of Illness; or Soc. 537, Social Consequences of Disability</td>
<td>3</td>
</tr>
</tbody>
</table>

**Division C—Natural Sciences and Mathematics (36-37 hours)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Biol. 203Q, Introductory Biology I</td>
<td>3-5</td>
</tr>
<tr>
<td>Biol. 225, Human Anatomy; Biol. 524, Vertebrate Zoology; or Biol. 527, Comparative Anatomy</td>
<td>3-5</td>
</tr>
<tr>
<td>Biol. 226, Elementary Human Physiology; or Biol. 534, Mammalian Physiology</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Chem. 112Q, General and Inorganic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 111, College Algebra, and 123, College Trigonometry</td>
<td></td>
</tr>
</tbody>
</table>
Admission to Professional Curriculum
In order to enter the physical therapy professional curriculum, students must:

1. Be admitted to The Wichita State University
2. Have a minimum cumulative grade point average of 3.000 in all college courses, including a minimum 3.000 grade point average in required courses and a 3.000 grade point average in all required math and science courses
3. Submit to the Physical Therapy Admissions Committee all application forms, test results, information and fees requested by the committee by the deadline set each year by the Physical Therapy Admissions Committee
4. Be able to complete successfully (grade of C or better) all physical therapy prerequisites prior to the beginning of the first semester of the professional program (no required course may be taken during the summer prior to entering the program)
5. Be accepted by the Physical Therapy Admissions Committee.

A $100 nonrefundable tuition deposit is required of all students accepted by the committee.

Students may petition the committee for an exception to one of these requirements provided they are able to show that valid circumstances prevent compliance with that requirement.

Professional Curriculum
The following courses are required of students accepted into the professional phase of the physical therapy program.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Division D—Professional Studies</strong></td>
<td></td>
</tr>
<tr>
<td>PT 300, Basic Patient Care Skills</td>
<td>2</td>
</tr>
<tr>
<td>PT 302, Clinical Education I</td>
<td>1</td>
</tr>
<tr>
<td>PT 312, Clinical Education II</td>
<td>2</td>
</tr>
<tr>
<td>PT 320, Applied Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>PT 350, Physical Therapy Evaluation Procedures</td>
<td>2</td>
</tr>
<tr>
<td>PT 355, Physical Agents</td>
<td>4</td>
</tr>
<tr>
<td>PT 409, Introduction to Research for the Health Professions</td>
<td>1-1</td>
</tr>
<tr>
<td>PT 411, Special Projects</td>
<td>1-1</td>
</tr>
<tr>
<td>PT 422, Clinical Education III</td>
<td>2</td>
</tr>
<tr>
<td>PT 432, Clinical Education IV</td>
<td>4</td>
</tr>
<tr>
<td>PT 440, Prosthetics and Orthotics</td>
<td>2</td>
</tr>
<tr>
<td>PT 442, Clinical Education V</td>
<td>6</td>
</tr>
<tr>
<td>PT 445, Physical Therapy Procedures</td>
<td>4</td>
</tr>
<tr>
<td>PT 448, Therapeutic Exercise I</td>
<td>3</td>
</tr>
<tr>
<td>PT 450, Therapeutic Exercise II</td>
<td>5</td>
</tr>
<tr>
<td>PT 452, Clinical Education VI</td>
<td>6</td>
</tr>
<tr>
<td>PT 480, The Physical Therapist in Practice</td>
<td>3</td>
</tr>
<tr>
<td>PT 485, Topics in Physical Therapy</td>
<td>1</td>
</tr>
<tr>
<td>PT 489, Basic Joint Mobilization</td>
<td>2</td>
</tr>
<tr>
<td>PT 505, Pathophysiology I</td>
<td>4</td>
</tr>
<tr>
<td>PT 605, Pathophysiology II</td>
<td>4</td>
</tr>
<tr>
<td>Biol. 470, Applied Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>HS 301, Clinical Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>HS 310, Gross Anatomy</td>
<td>6</td>
</tr>
<tr>
<td>HS 511, Neuroanatomy and Neurophysiology</td>
<td>3</td>
</tr>
</tbody>
</table>

Special Requirements
Students are required to purchase uniforms and all apparel needed during clinical learning experiences. Students are also required to purchase professional liability insurance (in the amount of $1,000,000/$3,000,000) and health insurance coverage. This must be done on a yearly basis. Prior to entering the clinical learning experiences in the first year of the professional program, each student must be certified in cardiopulmonary resuscitation (CPR). This may be accomplished through the Red Cross, American Heart Association or the Department of Physical Therapy. Recertification will be needed prior to entry into the senior year clinical education courses. In addition, students must be required to provide their own transportation to and from the health care facilities used for clinical experiences. During internship assignments outside Wichita, students may be required to pay all living and travel expenses.

Information related to special requirements is available in the office of the Department of Physical Therapy.

Lower-Division Course

**281. Cooperative Education Field Study.** (1-8), A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 281 may follow one of two scheduling patterns: **Parallel**, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment; or **Alternating**, working full time one semester in a field study and returning to full school enrollment the following semester; such students need not be concurrently enrolled in any other course. Prerequisites: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 17 281 2 1212

Upper-Division Courses

**300. Basic Patient Care Skills.** (2), 1R; 2L. Theory and practice of fundamentals of patient care in physical therapy including medical terminology, communication, physical management of the patient and ambulation. Prerequisite: departmental consent. H 17 300 1 1212

**302. Clinical Education I.** (1), 4P. Introduction to basic patient care in various physical therapy settings. Offered C/NCR only. Prerequisite: departmental consent. H 17 302 2 1212

**312. Clinical Education II.** (2), 8P. Supervised application of the skills acquired in class to patients in various physical therapy settings. Offered C/NCR only. Prerequisite: departmental consent. H 17 312 2 1212

**320. Applied Biomechanics.** (3), 3P; 2L. Analysis of the integration of the systems of the body that produce normal motion and the effects of dysfunction on normal motion. Prerequisite: departmental consent. H 17 320 1 1212

**350. Physical Therapy Evaluation Procedures.** (1R; 3L. Theory and practice of basic physical therapy evaluation procedures; includes sensory and muscle testing, goniometry and posture evaluation. Prerequisite: departmental consent. H 17 350 1 1212

**355. Physical Agents.** (4), 2R; 4L. The focus of this course is the study of agents used in the treatment of physical ailments. Prerequisite: departmental consent. H 17 355 1 1212

**409. Introduction to Research for the Health Professions.** (1). An introduction to the scope, format and use of research in the health professions. Development of ability to be a critical consumer of professional literature and the initiation of research projects. Prerequisite: departmental consent. H 17 409 6 1212

**411. Special Projects.** (1-2), Arr. An introduction to the performance of investigative student research project in, or related to, the field of physical therapy. Students must complete two credit hours as a requirement for the major. Prerequisite: PT 409. H 17 411 3 1212

**422. Clinical Education III.** (2), 8P. Continuation of PT 312. Offered C/NCR only. Prerequisite: departmental consent. H 17 422 2 1212

**432. Clinical Education IV.** (4), 16P. Continuation of PT 422. Offered C/NCR only. Prerequisite: departmental consent. H 17 432 2 1212

**440. Prosthetics and Orthotics.** (2), 1R; 2L. Study of prosthetics and orthotics including basic principles of design, components, alignment and use. Prerequisite: departmental consent. H 17 440 1 1212

**442. Clinical Education V.** (6), 40P. Supervised full-time assignments in physical therapy settings where the student is responsible for initial patient evaluations, a program of planning, implementation and assessment of patient progress. Offered C/NCR only. Prerequisite: departmental consent. H 17 442 2 1212

**445. Physical Therapy Procedures.** (4), 2R; 4L. The study of evaluation and treatment techniques in physical therapy. Prerequisite: departmental consent. H 17 445 2 1212
484. Therapeutic Exercise I. (3). 1R; 4L. Basic exercise procedures with and without equipment to increase range of motion, strength and/or coordination; theory, and skill development. Prerequisite: departmental consent. H 17 445 1 1212

485. Therapeutic Exercise II. (5). 2R; 6L. The major approaches to therapeutic exercise are presented and skill in performance developed. The use of therapeutic exercise equipment also is studied. Activities of daily living are analyzed in order to see the relationship between therapeutic exercise treatment and the patient's functional ability. Prerequisite: departmental consent. H 17 450 1 1212

482. Clinical Education VI. (6). 40P. Continuation of PT 484 at a different physical therapy clinical setting. Prerequisite: departmental consent. H 17 452 2 1212

480. The Physical Therapist in Practice. (3). Management principles used by a physical therapy administrator. Current trends in physical therapy and health care, including legal and ethical considerations. Prerequisite: departmental consent. H 17 480 0 1212

465. Topics in Physical Therapy. (1). Weekly discussion topics include those of current interest and activity within the profession. Among the topics are education and accreditation, realm of practice and competency and the changing roles and interactions of diverse health professionals. Prerequisite: departmental consent. H 17 475 0 1212

469. Basic Joint Mobilization. (2). 1R; 1L. This course is intended to provide students with basic knowledge and skills necessary to select and perform appropriate techniques of joint mobilization for the evaluation and treatment of joint dysfunction. Prerequisite: departmental consent. H 17 489 1 1212

Courses for Graduate/Undergraduate Credit

500. Advanced Developmental Disabilities. (1). 1R; 1L. Elective. The emphasis of this course is on advanced evaluation and treatment of children with perceptual motor and/or developmental disabilities. Reading assignments, class discussions and laboratory experiences are directed toward student's interests or particular needs. Prerequisite: PT 450. H 17 500 1 1212

505. Pathophysiology I. (4). The body's defenses and responses to disorders, disease and injury are studied. The common disorders, diseases and injuries to the body systems are analyzed as to cause, effect and treatment. Prerequisite: departmental consent. H 17 505 0 1201

605. Pathophysiology II. (4). The in-depth analysis of diseases, disorders and injuries to the musculoskeletal system and to the nervous system are presented. Pathology, assessment and treatment are discussed. Prerequisite: departmental consent. H 17 605 0 1201

890. Thesis. (1-6). Repeatable to a maximum of six hours. Prerequisites: enrollment in graduate studies and consent of thesis advisor. H 17 890 4 1212

Physician Assistant

Department of Physician Assistant

The physician assistant is defined as an individual who is academically and clinically prepared to provide health care services with the direction and responsible supervision of a doctor of medicine or osteopathy who is responsible for the performance of that assistant. The functions of the physician assistant include performing diagnostic, therapeutic, preventive and health maintenance services in any setting in which the physician renders care, in order to allow more effective and focused application of the physician's particular knowledge and skills. The physician assistant is accountable for his/her actions, as well as being accountable to his/her supervising physician.

All students completing the 24-month physician assistant professional curriculum receive a certificate of completion. In addition, those students who meet all University, college and department requirements will receive the Bachelor of Health Science degree. Nearly all students completing the professional course of study will meet the BHS degree requirements. Graduates of the program are eligible to take the examination given by the National Commission on Certification of Physician Assistants. Passage of this examination is required by many states for physician assistant practice, including Kansas. The Wichita State University Physician Assistant Program is fully accredited by the American Medical Association's Committee on Allied Health Education and Accreditation.

Preprofessional Curriculum

The Department of Physician Assistant maintains the philosophy that persons with varied backgrounds can be successful physician assistant students. For that reason the preprofessional curriculum varies depending on a person's prior education and/or health care experience or the combination of education and experience. It should be noted that prior health care experience is not required, but is preferred. Interested persons should carefully examine each of the courses of study listed and follow the one that is appropriate for them. All interested persons should contact the department for clarification and help in completing the prerequisites for consideration of admission to the program. It is the desire of the department that all persons meet the requirements for the Bachelor of Health Science degree at the time of entrance into the professional curriculum. It is the intent of the Department of Physician Assistant that every student have a well-rounded education which includes a liberal arts and scientific base.

1. Applicants with a baccalaureate degree in a health profession or biology are considered to have met the prerequisites for the physician assistant professional curriculum. Those persons with an associate degree should consult a member of the department's faculty to determine if the preprofessional requirements for admission to the program and for the Bachelor of Health Science degree have been met.

2. For any person holding a baccalaureate degree with a major not in the areas listed above, the following are required:
   a. Biol. 203Q (5 hours), Biol. 120Q (4 hours), Biol. 225 (3 hours), Biol. 226 (3 hours)
   b. Chem. 111Q (5 hours), Chem. 112Q (5 hours)

3. For all others, the following must be completed:
   a. The GEC requirements
   b. Biol. 203Q (5 hours), Biol. 120Q (4 hours), Biol. 225 (3 hours), Biol. 226 (3 hours)
   c. Chem. 111Q (5 hours), Chem. 112Q (5 hours)
   d. A total of 60 semester hours of college credit

Additional requirements:
1. An overall college grade point average of 2.500/4.000
2. A grade of C or better in all Division C courses
3. A personal interview

Health care experience is not required, but is preferred. Requests for exceptions to the above will be considered on an individual basis.

General Education (36 hours)

Division A—Humanities and Fine Arts (nine hours in at least three departments)

Division B—Social and Behavioral Sciences (six hours in at least two departments)

Division C—Natural Sciences and Mathematics. Must include:
   Biol. 225, Human Anatomy
   Biol. 226, Human Physiology
   Biol. 203Q, Organismal Biology
   Biol. 120Q, Microbiology
   Chem. 111Q, General Chemistry
   Chem. 112Q, General and Inorganic Chemistry

Electives—Nine hours of any "G" or "Q" courses. (All course work must be designated "G" or "Q" courses. Nine
hours must be taken in General Studies ("G") courses. No more than six hours may be counted in any department. No courses can be counted in the students' major department.

NOTE: "G" courses are the most comprehensive and they serve as an overview for students not majoring in the field. "Q" courses serve majors and nonmajors. They tend to be more specialized and often are foundation courses.

General Information for Admission to Professional Curriculum

Students entering the physician assistant professional course of study are required to purchase malpractice insurance in an amount set by the State of Kansas. Students are also required to purchase all the diagnostic equipment needed for use during the two-year course of study as well as the required articles of dress.

Applications for the Physician Assistant Program are obtained from the department. Applicants should be aware that admission to the University is not admission to the Physician Assistant Program.

Selection for admission to the physician assistant professional curriculum is based on many subjective and objective factors. Each applicant is evaluated in terms of academic performance, health care experience, references, communication skills and so forth. An interview is required as part of the selection process.

Professional Curriculum

The physician assistant program curriculum consists of both classroom and clinical courses. Clinical courses are taught by physicians, physician assistants and other health care professionals in locations throughout the state.

Once admitted, students must take the following courses to meet the physician assistant professional requirements. Professional courses are available only to students in the program.

Professional Curriculum (all courses are required)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Year</td>
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</tr>
<tr>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>HS 388, Clinical Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>HS 390, Clinical Physiology</td>
<td>3</td>
</tr>
<tr>
<td>HS 421, Applied Clinical Pharmacology I</td>
<td>3</td>
</tr>
<tr>
<td>Med. T: 310, Clinical Laboratory</td>
<td></td>
</tr>
<tr>
<td>PA 300, Medical History and Physical Examination</td>
<td>4</td>
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<tr>
<td>PA 302, Patient Counseling</td>
<td>2</td>
</tr>
<tr>
<td>PA 316, Assessment and Management of the Integument</td>
<td>1</td>
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<tr>
<td>PA 320, Assessment and Management of the EENT Systems</td>
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<tr>
<td>Spring</td>
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<tr>
<td>HS 389, Clinical Anatomy II</td>
<td>3</td>
</tr>
<tr>
<td>HS 400, Introduction to Pathophysiology</td>
<td>3</td>
</tr>
<tr>
<td>HS 422, Applied Clinical Pharmacology II</td>
<td>3</td>
</tr>
<tr>
<td>PA 317, Assessment and Management of Endocrine System</td>
<td>1</td>
</tr>
<tr>
<td>PA 323, Assessment and Management of the Cardiopulmonary Systems</td>
<td>3</td>
</tr>
<tr>
<td>PA 330, Assessment and Management of the Gastrointestinal System</td>
<td>3</td>
</tr>
<tr>
<td>PA 333, Assessment and Management of Endocrine System</td>
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</tr>
<tr>
<td>PA 335, Assessment and Management of the Renal and Gentiţourinary Systems</td>
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<td>Total</td>
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<tr>
<td>Summer</td>
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<tr>
<td>PA 337, Assessment and Management of the Neuromuscular Systems</td>
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<tr>
<td>PA 375, Clinical Skills</td>
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<tr>
<td>PA 430, Clinical Conference I</td>
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<td>Senior Year</td>
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<td>Fall</td>
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<tr>
<td>PA 410, Clinical Rotation I</td>
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</tr>
<tr>
<td>PA 412, Clinical Rotation II</td>
<td>3</td>
</tr>
<tr>
<td>PA 414, Clinical Rotation III</td>
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</tr>
<tr>
<td>PA 418, Clinical Rotation IV</td>
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<tr>
<td>Total</td>
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<tr>
<td>Summer</td>
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<tr>
<td>PA 440, Clinical Preceptorship</td>
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<td>Total</td>
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<tr>
<td>Total Degree Hours</td>
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<td>Preprofessional</td>
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<tr>
<td>Junior year</td>
<td>51</td>
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<tr>
<td>Senior year</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>141</td>
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</tbody>
</table>

Graduation Requirements

Students who meet the course requirements specified in the physician assistant curriculum will receive a certificate of completion and Bachelor of Health Science degree with a physician assistant major.

Other Requirements

Students must purchase laboratory jackets, identification patches and name tags and are required to provide their own transportation to the clinical site. Students are required to purchase diagnostic equipment and malpractice insurance. Students must provide evidence of a complete physical examination including a tuberculin skin test and MMR immunization or rubella titer prior to clinical assignment.

Lower-Division Course

281. Cooperative Education Field Study. (1-6). A field placement which integrates classroom work with supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 281 may follow one of two scheduling patterns: Parallel, enrolling concurrently in a minimum of six hours of course work in addition to their co-op assignment, or alternating, working full time one semester in a field study and returning to full school enrollment the following semester. Students need not be concurrently enrolled in any other course. Prerequisite: completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H 19 281 2 1299

Upper-Division Courses

300. Medical History and Physical Examination. (4). 3R; 2L. This course will provide the theoretical and practical knowledge that can be utilized to obtain an appropriate medical history and/or conduct a proper physical examination (complete/pertinent). Also, the course will focus on the identification of normal and abnormal physical findings. Practice of methods and techniques learned in the course will take place in a faculty-processed laboratory setting. Prerequisite: admission to PA professional program. H 19 300 1 1299

302. Patient Counseling (2). The theories and techniques of patient counseling are considered with an emphasis on effective communication, basic counseling techniques and basic strategies for therapeutic intervention. The course deals with the philosophies of counseling for a wide range of cognitive and behavioral problems common to the primary care setting. Prerequisites: admission to PA professional program. H 19 302 0 1299

316. Assessment and Management of the Endocrine System. (1). A 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 dermatologic disorders and introduction to dermatological clinic through case presentations. Prerequisite: admission to PA professional curriculum. H 19 316 0 1299

317. Assessment and Management of the Endocrine System. (1). A course dealing with the endocrine system. Special considerations include diseases of the pituitary gland and hypothalamus; diseases of the thyroid, parathyroid and adrenal glands; diabetes mellitus, diagnostic procedures; special diets; endocrine emergencies and the treatment of endocrine diseases. Prerequisite: admission to PA professional curriculum. H 19 317 0 1299

320. Assessment and Management of Ophthalmic and Otorhinolaryngological Problems. (3). A course dealing with the pathophysiology of the eye, ear, nose and throat. Special emphasis is placed on etiology, diagnosis and treatment of ophthalmic and otorhinolaryngological (ENT) diseases. Students must provide evidence of a complete physical examination including a tuberculin skin test and MMR immunization or rubella titer prior to clinical assignment.
Included are tumors of the ear, nose, throat and eye;audiometry and ophthalmic manifestations of systemic diseases. Prerequisites: admission to PA professional curriculum. H19 320 0 1299

323. Assessment and Management of the Cardio-Pulmonary Systems. (3) A course dealing with the cardiovascular systems. Special considerations include the assessment and management of acute and chronic cardiovascular systems, peripheral vascular disease and emergencies. Appropriate evaluation and documentation, guidelines and special procedures will be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 410 1 1299

412. Clinical Rotation II. (3) A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on obtaining and recording complete and/or problem-oriented medical historical data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 412 1 1299

414. Clinical Rotation III. (3) A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on common diagnostic studies and their indications, availability, reliability and limitations. Students will obtain and record complete and/or problem-oriented medical historical data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 414 1 1299

416. Clinical Rotation IV. (3) A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on the selection of appropriate therapeutic regimens and their indications, availability, reliability and limitations. Students will obtain and record complete and/or problem-oriented medical historical data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 416 1 1299

419. Clinical Rotation V. (3) A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on the selection of therapeutic regimens and the care of patients in the critical care units. Students will obtain and record complete and/or problem-oriented medical historical data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 419 1 1299

422. Clinical Rotation VI. (3) A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on recognizing the signs and symptoms of uncommon illnesses. Students will obtain and record complete and/or problem-oriented medical historical data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 422 1 1299

330. Assessment and Management of the Gastro-Intestinal System. (3) A course that emphasizes the role of the gastro-intestinal (GI) system in health and disease. Special considerations include the assessment and management of patients with GI disorders. Prerequisites: admission to PA professional curriculum. H19 330 0 1299

333. Assessment and Management of Obstetrics and Gynecology. (3) A course that emphasizes the role of the obstetrician and gynecologic system in health and disease. Special considerations include the assessment and management of patients with obstetric and gynecologic disorders. Prerequisites: admission to PA professional curriculum. H19 333 0 1299

335. Assessment and Management of the Renal and Genito-Urinary Systems. (3) A course that emphasizes the role of the renal and genito-urinary systems in health and disease. Special considerations include the assessment and management of patients with renal and genito-urinary disorders. Prerequisites: admission to PA professional curriculum. H19 335 0 1299

377. Assessment and Management of the Neuro-Musculo-Skeletal Systems. (3) A course that emphasizes the role of the neuro-musculo-skeletal system in health and disease. Special considerations include the assessment and management of patients with neuro-musculo-skeletal disorders. Prerequisites: admission to PA professional curriculum. H19 377 0 1299

375. Clinical Skills I. (3). 1R; 4L. A combined theory, laboratory and clinical experience in which students apply their knowledge to the care of patients. Special considerations include the assessment and management of patients with neuro-musculo-skeletal disorders. Prerequisites: admission to PA professional curriculum. H19 375 0 1299

410. Clinical Rotation I. (3) A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on orientation to medical settings and obtaining and recording complete and/or problem-oriented medical historical data. Students will obtain and record complete and/or problem-oriented physical examination data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 422 1 1299

425. Clinical Rotation VII. (3) A six-week clinical experience in which students participate in the care of patients in a variety of medical settings and specialties. Particular emphasis will be on recognizing the signs and symptoms of uncommon illnesses. Students will obtain and record complete and/or problem-oriented medical historical data, become familiar with common diagnostic procedures and be involved in the selection of therapeutic regimens. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 425 1 1299

430. Clinical Conference I. (1). 1R; 3L. The major focus of this course is the synthesis of didactic and clinical education and training as it applies to primary health care delivery. Students will integrate didactic, clinical and research activities with an emphasis on problem-solving, critical thinking and practical application. Evaluation will be toward self-directed analysis by the student to identify clinical weaknesses and strengths. Prerequisite: student in PA professional program. H19 430 1 1299

432. Clinical Conference II. (3). 1R; 3L. The course is offered in the spring semester to clinical physician assistant students. The primary focus of this course is on issues affecting the graduate physician assistant, which include legislative issues, professional associations, responsibilities, professional conduct, malpractice issues, etc. This course includes several sessions for the National Board Examination utilizing lecture, demonstration and computer-assisted instruction. Prerequisites: concurrent enrollment in PA 430 and instructor’s consent. H19 432 1 1299

440. Clinical Preceptorship. (6) An eight-week course designed as a culmination of the student’s clinical training. Students are placed with a primary-care physician to enhance their knowledge of the physician assistant role. Special emphasis will be on the selection of therapeutic regimens and the care of patients in the critical care units. Students will, at the discretion of the preceptor, be included in all aspects of health care services offered at the site. Prerequisites: admission to PA professional program and faculty approval. H19 440 1 1299

481. Cooperative Education Field Study. (1-8) A field placement which integrates course work with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by faculty sponsors and cooperative education coordinators. Students enrolled in Co-op 481 may follow one of two scheduling patterns: parallel, enrolling concurrently in up to six hours of course work, in addition to their commitment to the preceptor or, alternating, working full time one semester in a field study and returning to full school enrollment the following semester; such students may not concurrently enroll in any other course. Prerequisites: successful completion of the freshman year and satisfactory academic standing prior to the first job assignment. May be repeated for credit. H19 481 2 1299

Respiratory Therapy

Department of Clinical Sciences

Respiratory therapy is an allied health profession within the health care team. It is the practice of applying therapeutic and diagnostic procedures to patients with respiratory conditions. Respiratory therapy professionals work closely with physicians, nurses, and other health care providers to develop and implement treatment plans for patients with respiratory disorders. They are responsible for assessing, diagnosing, and treating respiratory conditions, as well as managing respiratory equipment and monitoring patients during procedures. Respiratory therapists also play a role in patient education, providing information and guidance to patients and their families about living with respiratory conditions and managing their treatments.
specially employed in the treatment, management, control and care of patients with deficiencies and abnormalities associated with the respiratory system.

It encompasses the therapeutic use of medical gases; air and oxygen administering apparatus; environmental control systems; humidification and aerosols; drugs and medications; ventilatory assistance and 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.

The Respiratory Therapy Program is fully accredited by the Committee on Allied Health Education and Accreditation for the Education of respiratory therapists. Following completion of the professional program, students meet the educational requirements for examination by the National Board for Respiratory Care which leads to the Registered Respiratory Therapist (RRT) credential.

The Bachelor of Health Science degree is available to respiratory therapy students who seek to expand their roles in education and administration. Students interested in more information should contact the college dean's office student advisor.

The college cooperates with Kansas Newman College in a dual degree program. Inquiries regarding the program should be addressed to the director of the respiratory therapy program.

**Associate of Science in Respiratory Therapy**

**Preprofessional Curriculum**

The respiratory therapy curriculum consists of both classroom and clinical courses. The majority of the classroom courses are taught on the Wichita State campus while the clinical courses are taught in clinical affiliations.

The following courses should be taken by respiratory therapy students desiring an Associate of Science in respiratory therapy. Due to course scheduling and/or availability, students may or may not complete all requirements for the Associate of Science degree in two years.

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**Courses**

<table>
<thead>
<tr>
<th>Communications (six hours)</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl. 101, College English</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 112, Basic Interpersonal Communication</td>
<td>3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Division A—Social and Behavioral Sciences (three hours)</th>
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</thead>
<tbody>
<tr>
<td>Psy. 111Q, General Psychology</td>
</tr>
<tr>
<td>Division B—Natural Sciences and Mathematics</td>
</tr>
<tr>
<td>Biol. 120Q, Introduction to Microbiology</td>
</tr>
<tr>
<td>Biol. 225, Human Anatomy</td>
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<tr>
<td>Biol. 226, Elementary Human Physiology</td>
</tr>
<tr>
<td>Chem. 103Q or 111Q, General Chemistry</td>
</tr>
<tr>
<td>Math. 109, College Algebra with Review, or Math. 111, College Algebra</td>
</tr>
<tr>
<td>Phys. 111Q, Introduction to Physics, or Phys. 131, Physics for the Health Sciences</td>
</tr>
</tbody>
</table>

**Admission to the Professional Curriculum**

Students submitting application to the professional program are eligible for consideration after they have met Wichita State and College of Health Professions general admission requirements.

To qualify as a candidate for admission to the professional phase of the Respiratory Therapy Program, students must:

1. Be admitted to The Wichita State University.
2. Have submitted an application to the program.
3. Have a minimum grade of C in all prerequisite courses, and an overall minimum GPA of 2.000.
4. Be working on a study plan that allows completion of all prerequisite courses before professional classes begin.
5. Be available for a personal interview.

Persons with at least one year of prior work experience in respiratory therapy or who hold the entry-level certification credential (CRT) may apply for advanced placement testing. Guidelines are available from the program director.

**Professional Curriculum**

The following courses are required in the professional curriculum. For current program requirements and admissions dates, see departmental adviser.

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**Courses**

<table>
<thead>
<tr>
<th>Division C—Natural Sciences and Mathematics (42-44 hours)</th>
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</thead>
<tbody>
<tr>
<td>RT 111, Introduction to Respiratory Therapy</td>
</tr>
<tr>
<td>RT 212, Respiratory Therapy Procedures</td>
</tr>
<tr>
<td>RT 222, Introductory Clinical Practicum</td>
</tr>
<tr>
<td>RT 202, Respiratory Therapy Practicum I</td>
</tr>
<tr>
<td>RT 203, Respiratory Therapy Practicum II</td>
</tr>
<tr>
<td>RT 310, Respiratory Therapy Practicum III</td>
</tr>
<tr>
<td>RT 325, Cardiopulmonary and Renal Physiology</td>
</tr>
<tr>
<td>RT 360, Pulmonary Rehabilitation</td>
</tr>
<tr>
<td>RT 426, Cardiopulmonary Disorders and Management</td>
</tr>
<tr>
<td>RT 435, Ventilators and Applied Critical Care</td>
</tr>
<tr>
<td>RT 450, Introduction to Neonatal Respiratory Care</td>
</tr>
<tr>
<td>* HS 301, Clinical Pharmacology</td>
</tr>
</tbody>
</table>

This course may be taken before or during the professional curriculum.

**Special Requirements**

Students are required to purchase uniforms and other items needed during clinical learning experiences. Students are also required to purchase professional liability insurance. For specific information, please contact your department adviser each semester. In addition, students are required to provide their own transportation to and from the health care agencies used for clinical experiences.

Information related to special requirements is available to students in the Respiratory Therapy Program, The Wichita State University, Wichita, Kansas 67208-1595.

**Lower-Division Courses**

101. Overview of Respiratory Therapy. (2) An overview of the profession, the cardiopulmonary system and therapy modalities. H 13 101 0 1299

102. Cardiopulmonary Resuscitation. (1) Instruction and supervised practice of cardiopulmonary life support plus introduction to basic terminology and principles of circulation and respiration are provided with special
302. Seminar II. (2). Discussion of advanced skills and techniques involving patients and preparation of case studies. Prerequisite: departmental consent. H 13 302 9 1299

310. Respiratory Therapy Practicum II. (1-6). Students practice advanced therapeutic techniques in the hospital environment. Prerequisite: RT 435. H 13 310 2 1299

320. Clinical Projects. (1-3). Provides an opportunity for the student on an individual basis to select a topic for independent investigation. Repeatable to six hours. H 13 320 4 1299

330. Blood Gases: Clinical Application, Instrumentation and Quality Control. (1-3). May be repeated to six hours. Blood gases, acid-base theory, clinical application, blood gas analysis and quality control are presented. Modern monitoring trends and equipment usage are emphasized and demonstrated. Prerequisites: college chemistry and human physiology, or departmental consent. H 13 330 0 1299

360. Pulmonary Rehabilitation. (1-5). Objectives, methods and expected results are presented and discussed. Patient testing methods, including clinical exercise testing, patient and family education, bronchial hygiene, breathing retraining, biofeedback, physical reconditioning and home care, are described and discussed. Prerequisite: departmental consent. H 13 360 0 1299

426. Cardiopulmonary Disorders and Management. (1-6). A study of the diagnosis, treatment and management of cardiopulmonary disorders. Emphasis is placed on interpretation of diagnostic tests, applying these interpretations to the treatment and management of the disease and understanding essential mechanisms of disorder function. Patient management problems and case study approaches are used. Prerequisite: RT 222. H 13 426 0 1299

550. Advanced Perinatal Cardiorespiratory Care. (3). Cross-listed as HS 550. Focuses on diagnostic and therapeutic modalities used in the care of high risk mothers and infants. Topics include equipment and techniques used in tertiary care perinatal centers: high frequency ventilation, ECMO, air transport, and so on. Emphasis on the respiratory care and medical management of critically ill and difficult-to-treat patient. Prerequisites: RT 450 and 203 or instructor's consent. H 13 550 1299
Fairmount College of Liberal Arts and Sciences

Phillip D. Thomas, PhD, Dean
Fairmount College of Liberal Arts and Sciences offers a variety of programs designed to serve the general objectives of The Wichita State University and to enhance its urban mission. The college seeks to preserve the cumulative learning of the past, interpret the research of the present and enlarge the educational opportunities for the future by offering 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 and the use of field majors. Substantial flexibility exists within all these areas for the college serves both those who come directly from high school and those who return after many years away from school.

Degrees Offered

Baccalaureate
The Bachelor of Arts, Bachelor of Science and Bachelor of General Studies degrees are conferred by Fairmount College of Liberal Arts and Sciences. Each degree requires the completion of a minimum of 124 credit hours, the attainment of an overall grade point average of 2.000 including transfer work, a grade point average of 2.000 in the major field of study and a 2.000 WSU grade point average.

Bachelor of Arts degrees are offered in American studies, anthropology, art history, biological sciences, chemistry, communication, computer science, classical languages, economics, English, French, geology, German, gerontology, history, communicative disorders and sciences, mathematics, minority studies, music, philosophy, physics, political science, psychology, social work, sociology, Spanish, studio arts, theatre and women's studies. Bachelor degrees began to be phased out beginning in 1987 in linguistics and religion; however, students in both programs will be accommodated. Both areas will be emphasized within the general studies program.

The Bachelor of Science is available in administration of justice, biological sciences, chemistry, computer science, geology, mathematics and physics.

The Bachelor of General Studies is a nondepartmental degree which requires breadth in distribution of course work and allows for the development of areas of concentration which may be thematically or occupationally related.

Graduate
Graduate programs are offered through the Graduate School in many liberal arts and sciences areas. The Master of Arts (MA) may be earned in anthropology, communications (interdisciplinary), English, gerontology, history, political science, psychology, sociology and Spanish. The Master of Science (MS) may be obtained in biological sciences, chemistry, geology, mathematics and physics.

The Master of Computer Science (MCS) is awarded in computer science; the Master of Fine Arts (MFA) in creative writing; the Master of Administration of Justice (MAJ) in administration of justice; the Master of Education (MED) in speech; the Master of Arts in Liberal Studies (MAL) in interdisciplinary studies and the Master of Public Administration (MPA) in public administration.

For more information, consult The Wichita State University Graduate Bulletin.

Policies

Admission
Students may be admitted to Fairmount College of Liberal Arts and Sciences upon successful completion of 24 semester hours with an overall grade point average of 2.000. Students must complete all basic skills courses (English 101 and 102 with grades of C or better; Communication 111 or 112; and Math 109, 111, 112 or 211) prior to admittance to Fairmount College.

Probation and Dismissal Standards
Students are placed on probation when their cumulative WSU grade point average falls below 2.000. Probation is removed when the overall WSU grade point average reaches the required 2.000 level. Students continue on probation when they earn a 2.000 or better semester average and their overall WSU grade point average remains below 2.000. If students on probation fail to earn at least a 2.000 semester average, and if their WSU overall grade point average remains below 2.000, they will be dismissed. Students on probation will not be academically dismissed unless they have attempted at least 12 hours after being placed on probation. When dismissed, students may reenroll only with the permission of the college's Committee on Admissions and Exceptions.

Application for Graduation
Every student seeking a degree from the college must apply for graduation and complete a degree card at the end of the semester in which 90 credit hours have been earned. Although graduation may be several semesters away, both application and degree card must be 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. Students planning to receive the Bachelor of General Studies degree will declare their intention at least 30 hours before the degree is granted. A plan of study including the area of concentration should be initiated as soon as possible—but no later than 30 hours before the degree is granted—with the Bachelor of General Studies adviser in the primary department of interest (see Area of Concentration below). The plan of study must be approved by the BGS Policy Committee, a subcommittee of the Curriculum and Academic Planning Committee of Fairmount College. This plan will be submitted along with other application for graduation materials to the Liberal Arts and Sciences dean's office. Thirty credit hours must be completed after the student's declaration to pursue the Bachelor of General Studies degree is filed.

Applications and degree cards may be obtained from the college office, Room 200, Liberal Arts and Sciences.

Cross-Listed Courses
Selected courses in the University curriculum are cross-listed because course content is suitable to more than one academic area. Every department or program which offers cross-listed courses provides a separate catalog description. When enrolling in cross-listed courses, students, in consultation with their adviser, may select the listing under which they wish to receive credit, but credit may be earned under only one of the course listings.

Field Trips
Attendance on field trips is mandatory in

Committee on Admissions and Exceptions.
ary course that includes in its Catalog description a statement that field trips are required or in which the instructor states that field trips are essential for earning credit. Absences are permitted only with the instructor's prior approval. Students may have credit withheld for a course if they do not complete the required field trips.

**External Credit Program**

The External Credit Program applies only to courses offered by departments and programs within Fairmount College. It allows persons to earn credit for learning that has taken place outside the traditional classroom such as business or industry training programs, extensive experience in community service and volunteer work, operating a business or holding elective office.

In order to receive credit for such learning, applicants must demonstrate knowledge equivalent to that gained in regularly offered University courses to the satisfaction of faculty in the appropriate fields of study. The associate dean in charge of external credit will help decide which departments and programs within the college may give credit for nontraditional learning and representatives in those areas will determine the kind of documentation needed as evidence of this learning.

Students in the External Credit Program must be admitted to The Wichita State University and are required to pay a nonrefundable assessment fee which covers faculty assessment time. University and college equivalency examination fees will apply to all credit awarded. Applicants will be advised of these fees upon entering the program.

**Cooperative Education**

The Fairmount College of Liberal Arts and Sciences participates in the Cooperative Education program which finds paid internships for undergraduates and graduates who wish to combine their classroom studies with academically related employment.

Further information is available in the Cooperative Education office, 125 McKinley Hall, or the academic information section of the Catalog.

**Requirements for Graduation**

**Bachelor of Arts, Bachelor of Science and Bachelor of General Studies**

The following college requirements must be met in order for students to receive the Bachelor of Arts (BA), the Bachelor of Science (BS), or the Bachelor of General Studies (BGS) degrees from the college. Courses taken to fulfill these requirements also satisfy the University's general education distribution requirements. The requirements for the BA, BS and BGS fulfill all University graduation requirements except the following:

1. Communications—six hours of composition and three hours of oral communication (a grade of C or better must be earned in both Engl. 101 and 102).

2. General Education—30 hours of "Q" and "G" courses including a minimum of nine "G" hours. These courses may be used to satisfy University and college distribution requirements.

3. Upper Division—at least 40 semester hours of credit in courses numbered 300 or above.

4. 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.

5. D Grades—no students are allowed credit toward graduation for D grade work in excess of one-quarter of the total hours.

I. **Humanities.** Candidates for the BA and BGS degrees must take 12 to 15 hours of courses in at least three of the following subdivisions. Three to six hours from the major or the area of concentration may apply in this distribution toward the BA or BGS. Candidates for the BS degree must take nine hours in at least three of the following subdivisions. Nine hours must be "G" or "Q" courses in each degree.

1. American Studies
2. Literature (see Item II), English Language and Literature
3. Foreign Language Literature
4. History
5. Humanities
7. Philosophy
8. Religion
10. Women's Studies

II. **Literature.** Students must complete at least three hours of literature. Foreign language literature courses taken after completion of the foreign language requirement (if any) may be used to meet the literature requirement and to count for humanities hours.

III. **History—Political Science.** Students must demonstrate proficiency in the field of the American political system and institutions either by passing Hist. 131Q or 132Q or Pol. S. 121Q or by passing an examination offered each semester by the history and political science departments.

IV. **Social and Behavioral Sciences.** Candidates for the BA and BGS degrees must take 12 to 15 hours of courses in at least three of the following subdivisions. Six hours from the major or the area of concentration may be included. Candidates for the BS degree must take nine hours in at least two of the following subdivisions. Only three hours from the major department may apply. In each degree, six hours must be in "G" or "Q" courses.

1. Administration of Justice
2. Anthropology
3. Economics—Econ. 101G, 201Q, 202Q and all upper-division courses
4. Geography—all courses except Geog. 201 and 235
5. Gerontology
6. Communication: Journalism
7. Minority Studies
8. Political Science
9. Psychology
10. Sociology/Social Work

V. **Natural Sciences.** Each student must take 12 semester hours including four hours in a laboratory science. Each student must take at least one course in each of the physical and biological sciences divisions listed below or students who have taken two units of high school laboratory science (exclusive of general science) must take at least nine hours, including four hours in a laboratory science and one course in each of the physical and biological sciences divisions as listed below. Six hours in mathematics or natural sciences must be in "G" or "Q" courses.

1. **Physical Sciences.** Chem. 101G, 3 hours: 103Q, 5 hours; 111Q, 5 hours; 112Q, 5 hours; and all other courses except Chem. 201. Geog. 201, 3 hours; and 235, 3 hours. (No other geography courses count toward the physical science division.)

2. Biological Sciences. 105G, 4 hours; 120Q, 4 hours; 203Q, 5 hours;
hours; 204, 5 hours; 370Q, 3 hours; 509G, 4 hours; 518Q, 3 hours.

VI. Mathematics. Students must demonstrate proficiency by passing Math. 109, 111, 112 or 211, or by passing an examination of equivalent mathematical skills. Six hours in mathematics or natural sciences must be in "G" or "Q" courses.

VII. Foreign Languages. Candidates for any BA degree and for the BS degree in administration of justice must demonstrate proficiency at a level equivalent to five hours beyond the 112 course in one foreign language or equivalent to the completion of the 112 course in two foreign languages. This proficiency may be demonstrated in either of the following ways:

1. Students may successfully complete 111 and 112, plus five additional hours in one foreign language or 111 and 112 in two foreign languages
2. Other foreign language experience, or high school foreign language study at the rate of one high school unit for each college semester, may apply toward the required proficiency.

A student who has credit in two years of a high school foreign language may enroll in 111 and 112 for credit without departmental consent.

A student who has credit in three or more years of high school foreign language may take 111 and 112 for credit only if departmental consent has been received in writing. Otherwise, a student who has credit in three or more years of a high school foreign language may enroll in any 200-level course for credit without departmental consent.

Candidates for the BS within the division of natural sciences and mathematics* have no foreign language requirement unless it is required by the department. In that case, the foreign language required does not count in the humanities section of the general education distribution requirements.

The BGS also has no foreign language requirement.

*The division of natural sciences and mathematics includes the departments of biological sciences, chemistry, geology, mathematics, physics, and computer science.

VIII. BA, BS: Major. All specific departmental major courses and requirements are listed in the Catalog by departments. While the department controls its own requirements for the major, the following expectations apply to all department majors:

1. A 2.000 grade point average is required in the major
2. No more than six hours from the major can be used to satisfy college distribution requirements
3. General Studies courses may not be used as hours in the major unless approved by the department
4. At least 12 upper-division hours are required in the major
5. No more than 45 hours in the major can be used for graduation with a BA degree and no more than 50 hours in the major can be used for graduation with a BS degree
6. The same hours cannot be used to satisfy requirements for two or more majors or minors or combination thereof.

IX. Combined Major. A BA degree with a combined major, consisting of 24 hours from one field of study and 12 hours from an allied field of study, may be designed under the advisement of the major departments and Fairmount College of Liberal Arts and Sciences.

X. Field Major. Field majors in biochemistry, chemistry/business, classical studies, and international studies are available. Other field majors may be designed by students who wish to select three or more correlated areas of study and develop an acceptable plan of course work. Field majors must adhere to the following rules:

1. At least 12 hours of work in major department and at least 12 of these hours upper division
2. A plan of study must be developed in consultation with and approved by an adviser in the major area of study and the dean's office of Fairmount College of Liberal Arts and Sciences.

XI. Minor. Minors are offered in geography, Italian and all fields of study in which a major may be earned. Minors acceptable from outside the college are accounting and business administration through the Barton School of Business, plus art history, studio arts, music and theatre through the College of Fine Arts. The number of hours required for a minor is set by each department.

XII. BGS: Area of Concentration. The Bachelor of General Studies degree allows students who wish to design their own programs of study greater freedom by reducing some of the requirements of the other bachelor's degrees for the purpose of allowing the student to develop areas of concentration which may cross departmental, or even college lines. The Bachelor of General Studies degree allows the student to become a generalist and may allow preprofessional or nontraditional career students greater flexibility in planning for their unique future.

With the assistance of the Bachelor of General Studies adviser in the department of primary interest, each student pursuing a Bachelor of General Studies degree will develop a plan of study which outlines an area of concentration incorporating a minimum of 33 hours. No fewer than 15 and no more than 21 of these hours will be taken in a "local" or primary department. The remaining 12 to 18 hours must be divided between at least two other departments. Concentrations may cross departmental or college lines in that they may be thematically or occupationally related. No general studies courses ("G" courses) will count toward the "primary" portion of the concentration but will be allowed in the additional portions.

Distribution requirements limit course work to no more than 30 hours from one department, to no more than 60 hours in one division and to no more than 30 out-of-college hours.

XIII. Nonliberal Arts and Sciences Courses. Students may count only 24 hours of nonliberal arts and sciences courses toward either the BA or BS degree. No more than 30 hours of nonliberal arts and sciences courses may count toward the BGS degree. (This includes courses taught outside of departments in the liberal arts and sciences.) Any nonliberal arts and sciences courses required by a major within the college will apply to LAS hours required for the degree.

Special Programs of Study

Fairmount College of Liberal Arts and Sciences provides basic courses for certain professional fields and for subsequent professional studies. Liberal arts studies are vital in establishing background resources for such areas.

Field Major

Students may select a major that correlates three or more fields of study to receive a broad appreciation of the cultural and dynamic factors of human conduct. The selection of courses must be made with an adviser and with the dean's approval. Although such a major cuts across departmental lines and is determined by the field of specific interest, the combination of courses must be acceptable to the college. Normally 36 hours are required for the major with 18 hours in the major department and at least nine in each of the two allied departments. Students may work with an academic adviser in developing an ap-
appropriate field major or may use one of the predesigned field majors indicated below. Students must meet BA gradua-
tion requirements for all field majors except biochemistry and chemistry/business which lead to the BS degree.

Biochemistry. Biochemistry is a rapidly growing science in which many im-
portant advances have been made in the last two decades. It requires both an understanding of biological processes and a knowledge of sophisticated tech-niques of chemistry and physics. The field major in biochemistry is designed to prepare students for employment or fur-
ther study in this area.

Students choosing this field major should seek the advice of the chairperson of the Department of Biological Sciences or the Department of Chemicals as early as possible. Both the biological sciences and chemistry sections of the Catalog provide complete descrip-
tions of this major.

Chemistry/Business. See the chemistry section of the Catalog for complete de-
scription.

Classical Studies. Classical studies is an interdisciplinary program designed to give students a sense of continuity and to interpret the values, ideas and ideals of antiquity as shown in its history, art, mythology, literature, political institutions and religions. The major also serves as a sound preparation for areas in which sensitivity to language and ideas is an important tool—classics, linguistics, an-
cient history, art history, archaeology, comparative literature, law, religion and Near Eastern studies.

The major consists of 36 hours which must be selected from a list of approved courses, except that courses of inde-
pendent study in one of the departments of the field major may count toward the major if the subject matter is at least half classical. For further information and a list of approved courses contact the Department of Modern and Classical Lan-
guages and Literatures.

International Studies. The program for the international field major is flexible and is designed to meet the need for specialists in foreign areas, international government or international economics, government, business and international organizations. Students are prepared for careers in international organizations in the U.S. government and in business firms with international activities.

Two options are available: Option A is in area studies; Option B is a combina-
tion of area studies and international business. No minor is required for either option. Students interested in Option A should contact Professor John Dreifort (history); those interested in Option B should contact Professor Dharma de Silva (management) or Professor Dreifort.

Art History
The art history program is designed to prepare students for the whole range of activities related to the art of the past: criticism, college-level and secondary-
level teaching and conservation. Require-
ments and curriculum for a major or minor in art history in Fairmount College of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Art and Design, section of the Catalog.

Studio Arts
Requirements and curriculum for a major or minor in studio arts in Fairmount Col-
lege of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Art and Design, section of the Cata-
log.

Communicative Disorders and Sciences (Logopedics)
Requirements and curriculum for a major or minor in communicative disorders and sciences in Fairmount College of Liberal Arts and Sciences are listed in the Col-
lege of Education section of the Catalog.

Music
Requirements and curriculum for a major or minor in music in Fairmount College of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Music, section of the Catalog.

Theatre
Requirements and curriculum for a BA in theatre in Fairmount College of Liberal Arts and Sciences are listed in the College of Fine Arts, School of Performing Arts, section of the Catalog.

Special Preprofessional Programs
Advisers in the various preprofessional fields and closely related departments provide specific information regarding courses and requirements.

Prelaw
The Association of American Law Schools states that students interested in pursuing a law degree should get a broad undergraduate education that provides "comprehension and expres-
sion in words, critical understanding of the human institutions and values with which the law deals and creative power in thinking." These qualities are to be achieved through disciplined study in fields of the student's choice. Require-
ments for the bachelor's degree provide

students with both a general education and a concentration in a field of major study.

Prelaw advisers may be contacted through the college offices in Room 200 of the Liberal Arts and Sciences building where students can find information about entrance requirements for law school so that undergraduate programs may be appropriately arranged.

Premedical, Predental, Preveterinary, Prepharmacy, Preoptometry, Prepody-
diary, Prechiropractic
Medical schools encourage students to obtain a broad education in addition to the prerequisite studies in the sciences. Preparation for the study of medicine should include courses that develop disciplined thinking, intelligent appreci-
ation of values and sympathetic under-
standing of society and human interac-
tion. Since the study of medicine is associated with scientific knowledge and techniques, courses in biological sciences, chemistry, physics and allied fields are required. Students may choose to major in one of these fields or they may select any other major in prepar-
ation for the study of medicine. The primary core of prerequisite courses necessary for admission to most medical professional schools includes one year each of English, math, biology, inorganic chemistry, organic chemistry and physics.

The completion of a bachelor's degree is a general admissions requirement for the majority of medical schools. A few medical schools grant admission on the basis of a three-year program of studies. Wichita State students on the three-year program may be granted the baccalaureate degree by Wichita State if they have taken 94 hours of preparation (the last 30 must be taken at Wichita State) within the required fields of study; 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 admis-
sion to the second year. Candidates must apply for the degree. Biological sciences majors are required to complete 94 hours plus either the organismal biology, ecology or microbiology option listed under the Department of Biological Sciences section of the Cata-
log.

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. Empha-
sis on the sciences is recom-

mended. The counselor for preprofessional studies in Fairmont College of Liberal
Arts and Sciences can provide a specific program of course work for either the three-year or four-year program.

The preparation for the study of veterinary medicine generally includes a minimum of 71 hours and an emphasis on science courses. The counselor for pre-veterinary medicine in Fairmount College of Liberal Arts and Sciences can provide a specific program of course work.

Schedules also may be arranged to meet entrance requirements of the various schools of optometry, osteopathy, pharmacy, podiatry, chiropractic, mortuary science and related professional fields. The office of the premedical professions counselor is in Room 200 of the Liberal Arts and Sciences building.

Pretheological

Students interested in pursuing graduate theological work should consult with the religion department chairperson for specific requirements set forth by specific seminaries.

Teaching

Students in Fairmount College of Liberal Arts and Sciences may qualify for secondary teaching certificates in Kansas and additional states. Those who plan to qualify for the standard secondary teaching certificate must complete the program outlined in the College of Education section of the Catalog.

Administration of Justice

The Department of Administration of Justice offers two degree programs: (1) Bachelor of Science and (2) Master of Administration of Justice. A third program, the Associate of Science degree, began being phased out in 1987 but students presently enrolled will be accommodated. These degree programs are designed to provide preservice and inservice students with a broad educational background in all aspects of the administration of justice field. Within the Bachelor of Science and Master of Administration of Justice degree programs, the student may select among several established areas of specialization.

Bachelor of Science—Major and Minor

Major. The major in administration of justice consists of at least 33 hours (but not more than 50 hours) including AJ 100Q, 201, 220Q, 403, 512 and 521; 12 hours in one of the following areas of specialization; and a minimum of three with a maximum of 20 additional elective hours in administration of justice (except in the general administration of justice track, where a minimum of 15 hours of electives are required).

I. Law Enforcement (12 hours). This area involves a study of the law enforcement role in society and the methods used by law enforcement agencies to achieve criminal justice goals. Course work in this area includes a minimum of 12 semester hours selected from the following courses: AJ 143, 320, 340, 343, 344, 606, 610Q and 422 (or 481).

II. Courts (12 hours). This area concerns the “adversary process” of the criminal justice system. Course work includes a minimum of 12 hours to be selected from the following courses: AJ 320, 520, 533, 606, 610Q, 641 and 422 (or 481).

III. Corrections Services (12 hours). This area involves rehabilitative casework and supervision of convicted offenders in both correctional institutions and the community. Course work in this area to be selected from the following courses: AJ 533, 560, 606, 641, 653, 656, 660 and 422 (or 481).

IV. Criminal Justice Administration (12 hours). This area concerns the management of various criminal justice agencies. Course work in this area to be selected from the following courses: AJ 501, 510, 606, 633, 636, 639, 6800Q and 422 (or 481).

V. Investigation (12 hours). This area encompasses scientific and traditional criminal investigation services provided by law enforcement agencies. Course work in this area is to be selected from the following courses: AJ 340, 343, 370, 570, 572, 670 and 422 (or 481).

VI. Security Services (12 hours). This area concerns the management procedures, technological systems and operational research functions of contract, industrial and institutional security agencies. Course work in this area is to be selected from the following courses: AJ 340, 343, 370, 570, 572, 670 and 422 (or 481).

VII. General Administration of Justice (15 hours). This area offers an overview of administration of justice and an exposure to a variety of specializations. Students must choose 15 elective hours from any combination of courses listed in the channels above and/or from the following nonclassified courses: AJ 303Q, 322Q, 421, 445 and 600.

Students seeking the Bachelor of Science (BS) degree with a major in administration of justice must complete at least 21 semester hours of upper-division course work in administration of justice. Upper-division course work is defined as junior- and senior-level course work offered by an accredited, four-year college or university and considered by Wichita State and the Department of Administration of Justice to be of upper-division academic quality. To satisfy the requirements for the BS in administration of justice, students must satisfy the college foreign language requirement.

Students majoring in administration of justice are also directed to select a minimum of 24 hours of supportive course work in one or more of the following areas: sociology, social work, psychology, minority studies, American studies, political science, anthropology, chemistry, biological sciences, geology or physics. With their 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 University general education requirements as well as the administration of justice requirements.)

Certificate of Emphasis in Cross-Cultural Communications for Administration of Justice. The emphasis in cross-cultural communications in administration of justice is designed to provide learning experiences that will prepare practitioners to bring about favorable interaction between criminal justice agencies and the minority groups they serve. This emphasis area attempts to prepare students to develop empathetic responsiveness, combined with humanistic insights and to develop and maintain mutually dependent helping and working relationships between criminal justice and a variety of minority groups.

All students majoring in administration of justice (including all fields of specialization) may opt to obtain the Certificate of Emphasis in Cross-Cultural Communications for Administration of Justice in addition to the administration of justice major. Those students seeking this certificate must satisfactorily complete Min. S. 210Q and one of the following: Min. S. 331, 332, 333 or 334. Also, students must take 12 additional hours in minority studies course work, nine of which must be in upper-division courses.

Minor. The minor consists of at least 18 hours of administration of justice courses, including AJ 100Q and four upper-division courses.

Associate of Science

The Associate of Science degree in administration of justice is awarded to students who complete the 64-hour, two-year program. Although it is being phased out, students presently enrolled will be accommodated. The requirements for the degree are summarized below.
I. General Education Course Requirements (30 hours)

Engl. 101, College English I, 3 hours
Engl. 102, College English II, 3 hours

Comm. 111, Basic Public Speaking, or Comm. 112, Basic Interpersonal Communications, 3 hours

Humanities, 6-9 hours
Science socieities, 6-9 hours

II. Professional Curriculum (12 hours)

AJ 100Q, Introduction to Administration of Justice, 3 hours
AJ 143, Police in the Community, 3 hours
AJ 201, Agency Administration I, 3 hours
AJ 220Q, Criminal Law, 3 hours

III. Elective Hours (22 hours)

Lower-Division Courses

AJ 100Q or departmental consent is prerequisite for all administration of justice courses unless otherwise noted.

100Q. Introduction to the Administration of Justice. (3). An introduction to the philosophy and history of law enforcement, identifying multiple facets of the administration of justice system, including the police, the courts, correctional agencies and the offender. The administration of justice role is studied as it relates to the individual and to society. Through visitation and contact with administration of justice agencies, the student is acquainted with the responsibilities and problems of personal development for an administration of justice career. A 29 100Q 0 2105

143. Police in the Community. (3). Rights and duties of 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 29 143 0 2105

201. Agency Administration I. (2). A survey of management models, administrative techniques and patterns of organizational structure characteristic of administration of justice agencies. A 29 201 0 2105

220Q. Criminal Law. (3). History; scope and nature of law; parties to crime; classification of offenses; 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 220Q 0 2105

Upper-Division Courses

303Q. 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. A 29 303Q 0 2105

320. Criminal Procedure. (3). Criminal procedure in the administration of justice system, including rights of accused, initiation of prosecution, rules of arrest, search and seizure and the exclusionary rule. A 29 320 0 2105

340. Investigative Technology. (3). Departmental fee. An analysis of technology and systems utilized in both criminal and traffic investigation using crime scene investigative procedures, various methods of personal identification, investigative photography, traffic accidents and safety investigative systems. Emphasis is placed on field research and evidentiary aspects of investigative technology. A 29 340 1 2105

343. Special Investigation. (3). Care, collection and preservation of evidence. Sources of information and locating subjects, crime scene recording and investigative techniques applicable to specific offenses are studied. A 29 343 1 2105

344. Criminalistics and Scientific Crime Detection. (3). Departmental fee. Scientific aids available to law enforcement officers, including investigative photography, chemistry, physics and microanalysis. Investigative procedures from crime scene through laboratory analysis to court presentation are studied. A 29 344 1 2105

348. Investigative Photography. (3). Departmental fee. Basic photography theory and practice as applied to criminal investigation and criminalistics. Students take, develop, prepare and document pictures for evidential purposes. Prerequisite: AJ 343 or instructor's consent. A 29 348 1 2105

349. Hostage and Crisis Negotiations. (3). Cross-listed as Comm. 349. An introductory course focusing upon the study of negotiation management and techniques appropriate to the handling of hostage negotiations, barricaded-subject negotiations and other exigent situations such as suicide and violent domestic disturbances. The use and training of special tactical and negotiation teams are examined. Prerequisites: AJ 100 and Comm. 112 or instructor's consent. A 29 349 2 2105

370. Analysis of Security Administration. (3). A course of study for interested students analyzing security management. The history and philosophy of security, personnel security measures and security goals of business, security firms, military services and government bureaus are discussed. Open to all interested students in any major field of study. A 29 370 0 2105

382Q. Women in the Administration of Justice. (3). Cross-listed as Wom. S. 382. A course designed to examine the role of women within the criminal justice system. It is approached from two perspectives: (1) those women employed by the criminal justice system and (2) those women sought after and incarcerated by the criminal justice system. Emphasis is placed on personal characteristics unique to women in the history of law enforcement and corrections. A 29 382Q 0 2105

403. Senior Seminar. (3). An intensive study of the theory and operation of the total criminal justice system. Required of all administration of justice majors. Prerequisites: senior standing and departmental consent. A 29 403 0 2105

421. Individual Directed Study. (1-3). Study in a specialized area of the administration of justice system with emphasis on the student's research project. Repeatable for credit not to exceed a total of six hours. Prerequisites: 15 hours in administration of justice core and departmental consent. A 29 421 0 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 96 hours for three hours credit; there is a maximum of six hours credit. Prerequisites: 15 hours in administration of justice, junior or senior standing, consent of the criminal justice agency and internship coordinator's consent. 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 six hours. A 29 445 3 2105

481. Cooperative Education. (1-6). This course provides the student with a field placement where the student is involved in a planned and supervised professional experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by the departmental cooperative education coordinator. Prerequisites: administration of justice major, 15 hours of administration of justice courses, senior standing and consent of the criminal justice agency. Offered C/N/CR only. A 29 481 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. Computers in Administration of Justice. (3). A survey of computer use and potential in police, courts and correctional agencies. The ethical and legal problems confronting 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 computers in basic and applied research in the administration of justice. A 29 510 1 2105

512. Research Methods. (3). An introduction to statistical methods, including experimental design, the analysis of statistical significance and the emphasis on the utilization of the general methodology of research as it pertains to the administration of justice. A 29 512 0 2105

520. Criminal Evidence. (3). Concepts of criminal evidence rules as they pertain to kinds and degrees of evidence—procedure for administrative exclusion evidences and privileged communications; the hearsay rule and its exceptions; and judicial notice, burdens of proof and presumptions. Emphasis is placed on the rules of evidence that govern the administration of justice process. A 29 520 0 2105

521. Law and the Administration of Justice Process. (3). Examination of recent judicial interpretations affecting legal process, rules
of evidence, substantive law and administrative law. An in-depth study of statutory provisions is made with emphasis on the conflict of laws and the legal rights and duties of government administration of justice personnel. A 29 521 0 2105

533. Juvenile Justice. (3). An analysis of decision-making processes in juvenile justice, the content of juvenile law and Supreme Court decisions affecting juvenile justice, as well as 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 the techniques of identifying existing and potential problems as they relate to segments of the administration of justice. Program categories to be analyzed include citizen involvement (voluntary and civilian 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 types of personnel in governmental and nongovernmental community support and action programs, which, although not traditionally identified as such, appreciably contribute to the administration of justice. A 29 570 0 2105

572. Security Technology. (3). Physical security hazards, threats, sabotage and pillage problems as they affect the governmental and private agencies, as well as actions taken by security officers to prevent them. Special emphasis is placed on 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 Anthr 600. This course encompasses the area of criminal investigation involving forensic evidence, bodily hair, fingerprint, dentition and skeletal system. It covers procedures of collection, preservation, marking, transportation, referral, laboratory examination and comparison analysis. Prerequisite: AJ 370 or instructor's consent. A 29 600 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

610Q. The Victim and the Administration of Justice. (3). An examination of the relationship of criminal victims to the criminal justice system. Consideration is given to the role of the victim in crime occurrences, as well as theoretical developments in the field. A 29 610Q 0 2105

633. Planning in the Administration of Justice. (3). Analysis of planning techniques related to the procedures, personnel, physical facilities, equipment and extra-agency activities. Prerequisite: AJ 201 or departmental consent. A 29 633 0 2105

639. Techniques of Agency Staff Supervision. (3). Analysis of the 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

641. Forensic Psychiatry. (3). Analysis of the role of psychiatry in the administration of justice. Emphasis is placed on introducing the student to concepts and procedures of forensic psychiatry. A 29 641 0 2105

643. Forensic Science. (3). Analysis of the medical role of prevention, detection and treatment as related to the administration of justice. Emphasis is placed on medical specialities, such as pathology and psychiatry, which have significant effects 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 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. Prerequisite: AJ 560 or departmental consent. A 29 660 0 2105

648. 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. 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 the development of contemporary correctional practices, including parole and after-care supervision. Special attention is given to the relationship that community-based corrections have to the larger administration of justice system. 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, intelligence, correctional facilities, juvenile treatment and crime prevention strategies employed by different societies throughout the world. The role of the United Nations as a representative of global interest and Crime Prevention is incorporated. A 29 680Q 2105

745. Advanced Special Topics in Administration of Justice. (1-4). Detailed study of topics in Administration of Justice with particular emphasis established according to the expertise of the various instructors. Prerequisite: AJ 745 3 2105

750. Workshops in Administration of Justice. (3). Prerequisite: AJ 100Q or instructor's consent. A 29 750 2 2105

781. Cooperative Education. (1-6). This course provides the student with a paid field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Students will work with a faculty member in the formulation and completion of an academic project related to the field experience. The cooperative education experience must be an integral part of the student's graduate program. Individualized programs must be formulated in consultation with and approved by the department cooperative education coordinator. Open only to AJ graduate students. Offered Cr/NCr only. A 29 781 3 2105

Courses for Graduate Students Only

800. General Seminar on the Administration of Justice. (3). An overview and integration of major propositions, concepts, assumptions, historical trends and practices that form the 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 Community-Based Corrections. (3). An in-depth analysis of the methods of community-based corrections, including parole, probation and after-care supervision. Particular attention is given to the relationship that community-based corrections have 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 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
American Studies

American studies is an interdisciplinary approach to American culture which seeks to see the national experience as a whole rather than from a single perspective. The program involves students in an examination of American culture and society—its character and values, its intellect and behavior. It studies its institutions, geographical and physical regions, myths and stereotypes, every-day life, literature, films, music, art, mass media and material culture. A collaboration of scholars working in different academic disciplines, American studies is not so much a subject as an outlook—a broad, open-minded perspective upon the nation's past, present and future. The American experience can be best understood when students pursue the American character across academic disciplines and gather insights from each of them. The result will be an awareness of the multiplicity of forces that mold American culture. "Americanists" deal with the complex and often contradictory patterns of civilization and are thus prepared for a variety of careers in the arts, business, education and government, as well as for graduate school education.

The student should plan an individualized program of study with a departmental adviser after completing nine hours of course work in American studies. A senior paper in Am. St. 699 is required. While suggested for all students, Am. St. 210Q does not count toward the major. American studies students are encouraged to fulfill University general studies requirements from courses which include the following: Econ. 1013, Engl. 232G, HAE 231G and Hist. 330G.

Major. The American studies major consists of 36 hours distributed as follows:

I. 24 hours of American studies courses from these areas—Am. St. 100 (3 hours); 3 hours from Am. St. 160Q, 210Q, 213 or 275Q; 3 hours from Am. St. 315, 350Q, 400 or 450; 3 hours from Am. St. 499A, 499B, 494 or 499D; 3 hours from Am. St. 512 and 9 hours from Am. St. 601, 602, 698 or 699

II. 6 hours in American studies electives from any area

III. 6 hours from at least 2 of the following 3 groups:

- Humanities. Engl. 252Q, 365; Rel. 240, Womn. S. 150Q, 150E, 530; Hist. 131Q, 132Q, 517, 518, 521, 522, 533, 534, 535Q, 537, 539
- Social Sciences. Pol. S. 121Q, 316Q, 318, 319, 358Q; Anthr. 511, 540, 538; Min. S. 100Q, 240Q, 260; Soc. 220Q, 315Q, 316, 338Q
- Others. Art H. 524, 526; Econ. 201Q; IS 234; Geog. 520; Mus. C. 162; PE 112, 302

Minor. A minor in Fairmount College of Liberal Arts and Sciences consists of 15 hours, including Am. St. 100, plus at least six upper-division hours.

Lower-Division Courses

100. Introduction to American Studies. (3) The course examines the development of American studies as a discipline, focusing on the earlier American studies and approaches adopted from such areas as the humanities, social sciences and linguistics. From their perspective as participants in American culture, students are invited to apply the techniques of interdisciplinary research to their own experience. Research approaches studied include quantitative analysis, semantics, structuralism, literary theory and others. Film, popular literature, ethnic and sex roles, cultural myths, television, fashion, sports and advertising are among the topics discussed. A 11 100 0313

150, Workshop in American Studies. (1-3) A course designed to provide specialized instruction using a variable format in an American studies' relevant subject. A 11 150 2 0313

160Q. Introduction to Entrepreneurship. (3) An introductory course that is designed not only to familiarize the student with the world of small business but also to analyze the personal strengths and weaknesses as they relate to launching an entrepreneurial career. Considerable attention will be given to the elementary concepts of planning, financing, starting and managing a new business. A 11 160Q 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

210Q. Crime in America. (3). A study of crime in America from colonial times to the present. Topics explored include the evolution of crime, crime as depicted in literature, crime as depicted in popular entertainment and popular attitudes toward crime and criminals. A 11 210Q 0 0313

213. American Popular Culture. (3). Cross-listed as Hist. 213. A 11 213 0 0313

275Q. Studies in Popular Literature. (3). Cross-listed as Engl. 275Q. A course devoted to study of various forms of popular literature (e.g., revolutionary literature, science fiction, western fiction, detective novel) with an emphasis both on the literary merits of the work and the way it reflects popular attitudes toward crime and criminals. A 11 275Q 0 0313

281. Cooperative Education in American Studies. (1-3). The course will permit American studies students to participate in the Cooperative Education program. Offered Cr/NC only. A 11 281 0 0313

Upper-Division Courses

315. Special Topics in American Studies. (1-3). An analysis of special topics in American studies. Repeatable for credit. A 11 315 0 0213

342. American Folklore. (3) Cross-listed as Engl. 342. A survey of the types and functions of unwritten traditional materials in the United States, including beliefs, tales, jokes, folk music, customs and crafts with some ethnic varieties: the unwritten materials that form the uniqueness of American culture. A 11 342 0 0313

350Q. American Sports Culture. (3). American sports reflect and influence our values, cultural institutions and society. The course will permit American studies students to participate in the Cooperative Education program. Offered Cr/NC only. A 11 350Q 0 0313

399. 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 six hours of credit. Prerequisites: six hours of American studies course work or its equivalent and instructor's consent. A 11 399 0 0313

Anthropology

A major in anthropology consists of at least 30 hours, including Anthr. 101Q; 102Q or 124Q; and 647; an area course, such as Anthr. 307, 312, 506, 511, 515Q, 576Q; and one course in archaeology: Anthr. 305Q, 313, 355, 501, 508Q, 538, 611 or 613. Students who expect to pursue graduate work in anthropology should also take Anthr. 526. (Anthr. 100Q and 126 do not count toward the major.)

Students interested in a particular sub-discipline in anthropology are encouraged to choose courses within one of the following tracks:

Medical Anthropology: Anthr. 101Q, 102Q, 127, 328, 514, 526, 556

Contemporary Cultural Anthropology: Anthr. 102Q, 127, 303, 306, or all appropriate area courses(s), 318, 503, 659, 519, 522Q, 526, 540, 542, 612, 647, 651.

Biological Anthropology: 101Q, 328, 505, 555, 556, 600, 656.


Archaeology: Anthr. 102Q, 124Q, 305Q, 313, 335, 501, 502, 508Q, 526, 538, 555, 602, 611, 613.

Certain courses in related departments may be counted toward an anthropology major (in all tracks) if they meet the particular needs of students and are approved by their advisors. No more than six hours from another department may be counted. (Examples: Biol. 105Q, 225, 310, 584; Geol. 501, 540, 560, 564; Geog. 681; Hist. 529, 531, 538, 540; Rel. 250Q; Art H. 425.)

Minor. A minor consists of 15 hours of anthropology (including at least six hours of upper-division work) chosen in consultation with the student's major advisor.

Lower-Division Courses

100G. Anthropology of Modern Life. (3). Anthropological perspectives on the behavior and institutions of contemporary man with particular emphasis on the modern culture of the United States. A 28 100G 0 2202

101Q. Biological Anthropology. (3). This course provides an introduction to the biological evolution and behavioral development of humans. Students are introduced to the basic concepts of population genetics, evolution, human ecology and culture along with...
A survey of the cultures and nations in eastern Asia bordering the Pacific Ocean, focusing on historical background, cultural beliefs and practices, and the distinctive patterns of each. A 28 312 0 2202

313. Archaeology of East Asia. (3). A broad survey of archaeology throughout eastern Asia from the early hominid fossils at Peking and Java to the development of Chinese and Southeast Asian civilizations. Special attention will focus on China (through the Han Dynasty), southeast Asia and Australia. A 28 313 0 2202

318. Psychological Anthropology. (3). The relationship of individual psychology (personality, emotion, cognition), both normal and abnormal, to group membership and cultural context. A 28 318 0 2202

323. Primitive Folklore. (3). Survey of the oral literature of Africa, the Americas and the Pacific. The role of myths, tales, riddles and proverbs in reflecting a people's value and world view is explored. A 28 323 0 2202

328. Medical Anthropology. (3). Medical anthropology studies the health beliefs and behaviors of various human societies, especially those that live outside the western scientific tradition. Attitudes toward the etiology of disease, the techniques of healing, the use of curative drugs and other agents, the roles of healers and therapists and the attitudes of the community toward the ill are among the areas covered. A 28 328 0 2202

335. Archaeology of North America. (3). A survey of the prehistoric cultures of North America north of Mexico from the earliest peopling of the continent to the time of European colonization. A 28 335 0 2203

481. Cooperative Education in Anthropology. (1-4). This course is designed to provide specialized in-school training in anthropology. Repeatable for credit. A 28 153 2 2002

281. Cooperative Education in Anthropology. (1-4). This course is designed to provide the student with practical experience that will complement the student's academic program. Consultation with and approval by an appropriate faculty sponsor is necessary. Offered Cr/NCR only. A 28 261 0 2002

Upper-Division Courses

303. World Cultures. (3). Comparative case studies of the cultures of existing societies of varying cultural traditions. Second term: Third World nations and modern industrialized countries. Prerequisite: Anthr. 102Q or 124Q. A 28 303 0 2202

305Q. World Archaeology. (3). The course introduces the basic concepts, methods, techniques and modes of analysis of specific archaeology. These are applied to a series of problems including the emergence of human culture, the development of domestic plants and animals and the evolution of cities and complex societies. A 28 305Q 0 2203

Courses for Graduate/Undergraduate Credit

501. Approach to Archaeology. (3). Laboratory approach to the study of past cultures. Special attention is focused on methodology and techniques available to archaeologists and the theoretical rationale that leads to the coherent interpretation of the structure of extinct cultures. Prerequisite: Anthr. 305Q or 124Q. A 28 501 0 2203

502. Introduction to Archaeological Laboratory Techniques. (1-3). Maximum of three hours. An introduction to the laboratory processing of archaeological materials. Students obtain direct experience in all phases of preparing excavated materials for analysis, including cleaning, restoring, preserving, numbering and cataloging of diagnostic and ethnic artifacts and other remains. Prerequisite: Anthr. 124Q or 305Q. A 28 502 1 2203

503. Approach to Cultural Anthropology. (3). Offered every fall semester, the course is an overview of major current directions in the study of culture and of cultures, symbolic systems which structure social, political, economic and religious institutions, personality, the arts and bodies of knowledge. A critical examination of the role, methods and content of modern anthropological fieldwork will be explored. Prerequisites: Anthr. 124Q, 124Q or equivalent. A 28 503 2202

505. Approaches to Biological Anthropology. (3). Offered every spring semester, the course is an intensive study of three central topics in biological anthropology: evolutionary theory, paleoanthropology and modern human variation. Emphasis is on current theories, methods and issues. Required of all graduate students in anthropology. Prerequisite: Anthr. 101Q or equivalent. A 28 505 0 2202

506. Peoples of the Pacific. (3). A survey of the cultures and languages of non-nuclear peoples of the Pacific, Micronesia and Indonesia. A 28 506 0 2202

508Q. Ancient Civilizations of the Americas. (3). A cultural survey of the Aztec, Maya and Inca. Prerequisite: Anthr. 102Q or instructor's consent. A 28 508Q 0 2212

511. The Indians of North America. (3). A survey of tribal societies and native confederations of North America. Prehistoric and historic perspectives. Prerequisite: Anthr. 102Q or 124Q. A 28 511 0 2212

514. Anthropological Perspectives in Geontology. (3). Cross-listed as Geon. 514. An anthropological analysis of the latter stages of the life cycle with historical and cross-cultural perspectives. Prerequisite: Anthr. 100Q, 124Q or Soc. 111Q. A 28 514 0 2202

515Q. Chinese People and Culture. (3). An introduction to the peoples of China and aspects of their culture: economy, government, society, religion and the arts. Historical attention will focus on the many adjustments the Chinese have made during the twentieth century, focusing in particular on industrialization and expanding trade relations. A 28 515Q 0 2202

516Q. Japan: People and Culture. (3). An introduction to the culture of Japan including its history and prehistory, aspects of traditional culture and 20th century Japan, its economy, politics and social organization. A 28 516Q 0 2202

519. Applying Anthropology. (3). The application of anthropological knowledge in the solution of social problems in industry, public health and public administration. Prerequisite: Anthr. 102Q or 124Q. A 28 519 0 2202

522Q. Art and Culture. (3). A survey of the visual and performing arts of nonwestern peoples, drawing on archaeological and missionary experiences in the cultural setting. Prerequisite: Anthr. 102Q or 124Q. A 28 522Q 0 2202

525. Social Organization. (3). A survey of the varieties of social organization among nonindustrialized peoples throughout the world. This course deals with family systems, kinship, residence patterns and lineage, clan and tribal organizations. Prerequisite: Six hours of anthropology. A 28 525 0 2202

538. Early Man in the New World. (3). A critical examination of facts and theories con-
caring early man in the New World, from the people of the continent to the beginning of the Archaic Tradition, and of the role of cultural contact between eastern North America and the New World. Prerequisite: Anthr. 1200 or 1240. 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 resilience. Prerequisite: Anthr. 1010 or 1240 or instructor's consent. A 28 540 0 2212

542. Women In Other Cultures. (3). Cross-listed as Wom. S. 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

555. Fossil Evidence for Human Evolution. (3). A detailed examination of human evolutionary history, emphasizing fossil remains and a survey of various interpretive explanations of the fossil record. Prerequisite: Anthr. 1010 or Biol. 203G 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: Anthr. 1010 or Biol. 203G or equivalent. 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: Anthr. 1010 or equivalent. A 28 557 0 2202


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

606. Forensic Anthropology. (3). Crosslisted as AJ 606. 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 an 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, using a variety of analytical methods. Students learn to apply standard methods of identification and modes of interpretation of the materials to produce an analyzable archaeological report. Prerequisites: Anthr. 502 and instructor's consent. A 28 602 1 2203

604. Museum Methods. (3). An introduction to museum techniques relating to the acquisition of collections and related procedures, such as accessioning, cataloging, documentation, presentation and storage. Emphasis is on current trends in museological philosophy concerning purpose, function and relevance of museums, as well as career opportunities. Prerequisite: instructor's consent. A 28 605 5 2202

607. Museum Exhibition. (3). Contemporary philosophy of exhibition design and the application of recent concepts to the planning and installation of an exhibit. Prerequisite: Anthr. 606 or instructor's consent. 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 11,000 years. Prerequisites: one introductory course in anthropology or departmental consent. A 28 611 0 2203

613. Archaeology of the Great Plains. (3). The archaeology of the Great Plains area from earliest evidence to the historic period. Prerequisite: one introductory course in anthropology or departmental consent. A 28 613 0 2203

636. Advanced Studies in Archaeology and Ethnology. (3). Special area and theory courses in anthropology. Prerequisites: six 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: six 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, ethnosciences (comparative analysis, cognitive anthropology), structuralism, ethology, radical anthropology and others. Prerequisites: six hours of anthropology. A 28 648 0 2202

651. Language and Culture. (3). Cross-listed as Linguistics. An introduction to physical and descriptive linguistics. The course deals with the ethnography of communications, lexical and linguistic determination. Prerequisite: six 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: Anthr. 1010 or instructor's consent. A 28 656 5 2202

667. English Syntax. (3). Cross-listed as Linguistics. An examination of the structure of the English language and the relations to linguistics. Prerequisites: Engl. 315 or Ling. 577 or Anth. 577 or instructor's consent. A 28 667 0 1505

690. Field Methods in Anthropology. (3-6). A maximum of six hours can be counted as anthropology hours toward either degree. A course that instructs the student in archaeological and ethnological field methods through actual participation in a research program. The project depends upon the specific Summer Session and varies from one 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 teaching 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. Prerequisites: Anthr. 1010 or departmental consent. 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

Courses for Graduate Students Only

801. Seminar in Archaeology. (3). Comprehensive analysis of archaeological data with emphasis on theoretical problems of interpretation and reconstruction. Repeatable up to six hours. Prerequisite: Anthr. 1010 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 and interview and observation techniques, as well as more specialized methods such as photography, mapping and tape recording. Repeatable up to six hours. Prerequisite: departmental consent. A 28 802 9 2202

820. Seminar in Physical Anthropology. (3). Analysis of fossil, skeletal and modern biological differences among people. Emphasis is placed on methods and techniques of analysis with a consideration of current interpretative models. Prerequisite: Anthr. 556 or 557 or departmental consent. A 28 820 9 2202

837. Seminar in Cultural Anthropology. (3). Intensive study of advanced theoretical questions in cultural anthropology. Repeatable up to six hours. Prerequisite: five hours of anthropology. A 28 837 9 2202

847. Colloquium in Anthropology. (1-2). S/U or Grade only. Repeatable for a maximum of three hours. To provide graduate students with seminar-style experience in recent research in all of the subfields of anthropology. Course also allows those students preparing for their first papers for presentation at professional conferences to present them before a critical but friendly audience. Students presenting colloquium papers receive two credits. Prerequisite: graduate standing in anthropology. A 28 847 9 2202

848. Recent Developments in Anthropology. (3). A review of the latest discoveries and interpretations in the science of man. Repeatable up to six hours. Prerequisite: five hours of anthropology. A 28 848 9 2202

870. Independent Reading. (2-3). Repeatable up to six hours. Prerequisite: departmental consent. A 28 870 3 2202

875-876. Thesis. (2-2). A 28 875 4 2202; A 28 876 4 2202

Biological Sciences

The biological sciences department offers a broad and flexible curriculum leading to the Bachelor of Arts (BA) or the Bachelor of Sciences (BS) degrees. The department also participates in a
field major which leads to a BS degree in biochemistry. All students who intend to pursue one of the programs within the Department of Biological Sciences should contact the department as early in their educational careers as possible for assignment to a faculty academic adviser.

Major. A major in biological sciences leading to the Bachelor of Arts (BA) requires a minimum of 30 semester hours of biological sciences course work up to 40 semester hours may be taken for credit. A major in biological sciences leading to the BS degree requires a minimum of 40 semester hours of biological sciences course work; up to 50 semester hours may be taken for credit. Candidates for either degree must complete Biol. 203Q, 204, 418, 500, 584, and either 305 or 534. Candidates for either degree must also complete two laboratory courses chosen from among Biol. 305, 355, 575, 591, or other laboratory recommended by their adviser. In addition, candidates for either degree must also complete two semesters of inorganic chemistry, typically Chem. 111Q and 112Q, and one semester of organic chemistry, typically Chem. 531. Candidates for the BS degree must also complete two semesters of physics. Candidates for either degree must maintain an overall grade point average of 2.000 in all biological sciences course work.

Minor. Candidates for a minor in biological sciences must complete Biol. 230Q, 204 and any 3 of the remaining core courses identified above. Candidates for the minor must also maintain a 2.000 grade point average in all biological sciences course work.

Biochemistry Field Major. The departments of biological sciences and chemistry participate jointly in this program. Required courses are: Biol. 203Q, 204, 500 and 534; Chem. 111Q, 112Q, 523, 531, 532, 662, 663 and 664; Phys. 213Q and 214Q; and Math. 112 or 111 and 123. Also required are Biol. 666 and 669 (two enrollments) which are cross-listed in the chemistry department and 21 elective hours chosen from among those approved for the biochemistry field major (see academic adviser or departmental offices for approved courses).

Nonmajor Courses. The Department of Biological Sciences offers courses designed primarily to meet the needs of students in other departments. These are listed below as "Nonmajor Courses." These courses, or their equivalents at other institutions, cannot be used to satisfy the biological sciences course work requirements for the major.

Nonmajor Courses
(May not be used to satisfy the requirements for the major)

Lower-Division Courses

105G. The Human Organism. (4). 3R; 2L. (Day and evening sections offered fall and spring semesters; day section offered eight-week Summer Session.) A course designed to introduce the nonscience major to certain biological principles as they relate to the human organism. To provide biological information and understanding on subjects which are relevant to the student's own well-being and role as a world citizen and to increase awareness of the human place in the biosphere. The program of instruction is supplemented and reinforced with a laboratory experience which is appropriate for the nonscience major and the theme of the course. Credit earned in this course may not be applied toward the requirements for a major or minor in biological sciences and credit is not given for both Biol. 105G (no longer offered) and Biol. 105G. Students repeating Biol. 100G (no longer offered) should enroll in this course. A 12 105G 1 0401

120Q. Introduction to Microbiology. (4). 3R; 2L. (Day sections offered fall and spring semesters and eight-week Summer Session; evening section offered fall semester.) Fundamentals of microbiology with emphasis on microorganisms important in sanitation and disease. A 12 1200 1 0411

225. Human Anatomy. (3). 2R; 2L. (Day sections offered fall and spring semesters and eight-week Summer Session; evening section offered fall semester.) Emphasis on human anatomy. A 12 225 1 0412

226. Elementary Human Physiology. (3). 3R. (Day sections offered fall and spring semester and eight-week Summer Session; evening section offered fall semester.) Basic human physiology. Enrollment in Biol. 227 is optional. Prerequisite: Biol. 225. Chem. 103Q is recommended as a prerequisite. A 12 226 0 0410

227. Elementary Human Physiology Laboratory. (1). 3L. (Day sections offered fall and spring semester; evening section offered spring semester.) A laboratory in which some of the principles of human physiology are demonstrated in an experimental setting. Prerequisite or corequisite: Biol. 226. A 12 227 1 0410

Upper-Division Courses

310. The Biology of Human Reproduction and Fetal Development. (4). (Offered on irregular basis as staffing permits.) The major goal of this course is to bring together information from the fields of anatomy, embryology, physiology and endocrinology as it relates to human reproduction. Each topic is presented initially at an introductory level and developed subsequently to include the results of recent findings in each of the fields. Lectures and readings cover such subjects as: (1) the development and maturation of the reproductive tract; (2) reproductive endocrinology; (3) the anatomy and physiology of the male and female reproductive tracts; (4) the biology of fertilization, embryonic development and the artificial control of reproductive potential. Prerequisite: Biol. 102G (no longer offered), 105G, 203Q or 225. A 12 310 0 0410

370Q. Ecology and Man. (3). (Day section offered fall semester in even-numbered years and spring semester; evening section offered fall semester in odd-numbered years.) The main goal of the course is to provide information which will allow the student to appreciate the complex interaction relationship among the human population, natural resource use, practices and pollution. The course seeks to (1) provide a basis for interpreting (and acting upon) environmental problems through an understanding of basic ecological concepts; (2) engender a recognition of the difficulties encountered in solving environmental problems, including those that are technically uncomplicated; and (3) educate the student, as a responsible citizen, to the possibilities for meaningful input into the solution to such problems and to the importance of a basic knowledge in science, engineering, political science and economics.

509G. Foundations of Human Heredity. (4). Introduction to the mechanisms and societal significances of developmental, transmission and population genetics of humans. Attention is given to inborn errors of metabolism and development and the roles of genetic counseling and genetic engineering in their management. Course is intended for students majoring outside of the natural sciences and does not carry credit toward a biological sciences major or minor. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen with the instructor. Prerequisite: junior standing. A 12 509G 0 0417

518Q. Biology of Aging. (3). Cross-listed as Gerion. 518Q. (Offered as staffing permits.) An introduction to the phenomenon of aging, including a survey of age-related processes and diseases characteristic of the human organism with emphasis on humans. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: a basic course in biological sciences that satisfies general education requirements. A 12 518Q 0 0410

Major Courses
(Used to satisfy the requirements for the major)

Lower-Division Courses

150. Biology Workshop. (1-3). 12 150 2 0401

203Q. Introduction to Organismal Biology. (5). 4R; 3L. (Day sections offered fall and spring semesters; evening section offered fall semester only.) An introduction to the fundamental concepts of biology as they apply to multicellular organisms. Topics include the advantages and problems of a multicellular habit; homeostatic systems involving nervous and hormonal control, nutrient procurement, metabolism and information transfer. A 12 203Q 0 0410
146

circulation, use and cycling in plants, animals and communities; and asexual and sexual reproduction and inheritance in plants, animals and communities. The laboratory stresses evolutionary trends in the plant and animal kingdoms and the ecological relationships of plants and animals. Students who wish to repeat the course should enroll in this course. Prerequisites: concurrent enrollment in Chem. 103Q, 111O or 123Q is recommended. A 12 103Q 2 0401

204. Introduction to Cellular Biology. (5). 3R; 6L. (Day sections offered fall and spring semester, evening section offered spring semester only.) A continuation of Bio. 203Q in which the principles of cellular biology are presented and the cellular and molecular bases of phenomena discussed in Bio. 203Q are further explored. Topics include cellular structure as it relates to function; the concept of cells as organisms; the chemical basis of inheritance; nutrient procurement, use and cycling in the cell; regulation of cellular activities by regulatory protein activity and membrane mechanisms; and the development of specialized cells by considering cellular differentiation phenomena in plant and animal development. The laboratory is designed to demonstrate the principles of cell biology and to develop the student's skill in the experimental method and the communication of scientific information. Students wishing to repeat Bio. 113 (no longer offered) should enroll in this course. Prerequisites: Bio. 203Q and Chem. 103Q, 111O or 123Q. A 12 204 1 0401

Upper-Division Courses

305. Introductory Plant Physiology. (5). (Offered fall semester each year.) An introduction to the physiological mechanisms which control higher plant functions. Topics covered include a review of basic physiological principles; gas exchange; water absorption, transport and loss; organic nutrition and the processes of photosynthesis and respiration, including variant mechanisms in plants adapted for particular environments; transport of organic nutrients; mineral assimilation and nutrition; and factors affecting the survival of high plants. Emphasis is placed on structure as it relates to function and on the physical/chemical mechanisms involved in maintenance physiology. The laboratory emphasizes experimental techniques and approaches to investigations of plant physiological phenomena discussed in the lecture and the development of scientific writing skills. Students who have completed Bio. 203Q and/or 506 (no longer offered) will NOT receive major credit for this course. Prerequisites: Bio. 204 and Chem. 112Q. A 12 305 1 0406

320. Animal Physiology. (5). 3R; 4L. Lab fee. (Offered fall semester only.) An introduction to the physiological mechanisms that control animal functions. Topics include: respiration; circulation; nutrition, digestion and energy metabolism; thermoregulation; osmoregulation and excretion; musculoskeletal mechanics; sensation: reproduction; and the integration of function. Examples are taken from throughout the animal kingdom. Prerequisites: Bio. 204 and Chem. 112Q. A 12 320 1 0410

330. General Microbiology. (5). 3R; 6L. (Offered fall and spring semesters.) Introduction to the microscopic life forms, origins and evolution of bacteria and viruses, microbiology and population dynamics of microorganisms with emphasis on prokaryotes. Students wishing to repeat Bio. 550 (no longer offered) should enroll in this course. Prerequisites: Bio. 204 and Chem. 112Q. A 12 330 1 0411

418. The Biology of Ecosystems. (3). (Offered fall and spring semesters.) Principles underlying the interaction among populations and their environment from the biosphere to the population level of organization. Prerequisite: Bio. 204. A 12 418 6 0420

481. Cooperative Education. (2-4). This course is designed to complement and enhance the student's academic program by providing appropriate employment experiences gained through course work to job-related situations. For information contact the coordinator of undergraduate studies or the Cooperative Education office. Students earning graduate credit are expected to complete additional assignments chosen in consultation with the instructor, such as a term paper based on technical literature on a topic chosen in consultation with the instructor. Prerequisite: Bio. 204. A 12 527 1 0412

528. Parasitology. (3). 2R; 4L. (Offered fall semester only.) The parasites of man and other vertebrate hosts. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. In addition, graduate students are expected to submit an oral examination on a topic chosen in consultation with the instructor. Prerequisites: Bio. 204. A 12 531 1 0411

532. Entomology. (5). 3R; 4L. (Offered fall semester each year.) An introduction to the morphology, physiology, life cycles, behavior, ecology and economic significance of insects. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. In addition, students are expected to submit a term paper based on the technical literature on a topic chosen in consultation with the instructor or to develop proficiency in a specific taxon by performing an individual student project. Prerequisites: Bio. 204. A 12 531 1 0421

534. Mammalian Physiology. (3). (Offered fall semester each year.) An organ systems approach to mammalian-primarily human—physiology. Emphasis is placed upon nervous and endocrine control systems and the coordinate functions which maintain body homeostasis. Students earning graduate credit are expected to submit a term paper based upon research on a topic in mammalian physiology chosen in consultation with the instructor. Prerequisite: Bio. 204. A 12 534 0 0410

535. Mammalian Physiology Laboratory. (3). 4L. (Offered spring semester of odd numbered years.) An empirical approach to mammalian physiology. Students seeking graduate credit are expected to submit an additional laboratory report relating the results of a laboratory experiment to those found in the current text. Prerequisites: concurrent or prior enrollment in Bio. 534. A 12 535 1 0410

540. Comparative Embryology. (4). 2R; 4L. (Offered fall semester of odd numbered years.) A review of evolution, development, and the origins of vertebrates and invertebrates. Prerequisites: Bio. 204 or equivalent. A 12 540 1 0407
544. Histology (4). 2R-4L. (Offered spring semester in even-numbered years.) The microscopic anatomy of vertebrate tissues with emphasis on mammals. Students earning graduate credit are expected to complete additional assignments chosen in consultation with the instructor. Prerequisite: Biol. 204 A 12 544 1 0413

560. Plant Ecology (4). 2R; 6L. (Offered spring semester in even-numbered years.) Principles and patterns of plant distribution and of adaptation of plants to particular habitats. Emphasis is put on the experimental approach. Field trips are an integral part of the course. Prerequisite: Biol. 204 A 12 560 1 0420

573. Statistical Applications in Biology. (3). (Offered fall semester only.) A course designed to supplement Stat. 370 by providing experience with practical applications of statistical theory to biological data. The course includes computations on data derived from both the primary literature and independently designed research projects. The student will also develop hypotheses, the treatment of non-normally distributed data sets and nonhomogeneous experimental data units and the use of packaged computer programs for certain statistical tests are emphasized. Access to calculators with at least two memory banks is strongly encouraged. Students earning graduate credit are expected to complete an additional statistical analysis involving the use of the computing facilities. Prerequisites: Stat. 370. A 12 573 2 0419

575. Field Ecology. (3). 9L. (Offered fall semester only.) Techniques for analysis of systems consisting of living organisms and their environments. Field trips are required. Students earning graduate credit are expected to perform an individual project on the basis of analysis of results and report the results as a technical paper. Prerequisite: instructor’s consent. A 12 575 1 0420

578. Limnology. (5). 2R; 6L. (Offered spring semester in even-numbered years.) An introduction to the principal limnological processes that operate in lakes, streams and estuaries. Assigned readings, individual projects and field trips are required. Students earning graduate credit are expected to investigate the limnological properties of two ponds, comparing their characteristics, or investigate a specific taxon or trophic level in a lake. The results of this investigation are reported as a technical paper. Prerequisites: Biol. 204 and instructor’s consent. A 12 578 1 0422

584. Genetics. (4). The mechanisms of heredity and variation in plants and animals with a critical review of the concept of the gene. Students seeking graduate credit are expected to complete assignments as well as an additional term paper. The technical literature existing in written reports or a comprehensive term paper chosen in consultation with the instructor. Prerequisite: Biol. 204. A 12 584 0 0422

590. Immunobiology. (3). (Offered fall semester only.) The nature of antigens and antibodies and their interactions. Cellular and humoral aspects of immunologic phenomena are included. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 204 and Chem. 531. A 12 590 0 0416

591. Immunobiology Laboratory. (3). 6L. (Offered spring semester in odd-numbered years.) Methods of immunization and techniques for qualitative and quantitative determinations of antibody production and antigen-antibody reactions. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites or corequisites: Biol. 590, Chem. 531 or instructor’s consent. A 12 591 0 0416

610. Topics in Botany. (2-4). No more than a total of six credit hours earned from among Biol. 610, 640 and 660 may be applied toward major and graduation requirements. Students must complete a Directed Independent Study Abstract form and obtain departmental approval prior to enrollment. Prerequisite: Biol. 204. A 12 610 4 0402

620. Animal Behavior. (3). (Offered spring semester only.) A survey of animal behavior, including human, with major emphasis on the analysis of behavior as a concept of physiology. Principles and patterns of behavior are discussed, and credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 204 or departmental consent. A 12 620 0 0407

630. Sociobiology. (3). (Offered fall semester only.) A systematic study of the behavior of social behavior. The course focuses on animal societies, their population, structure, castes and communication and the underlying physiology. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 204 or departmental consent. A 12 630 0 0407

640. Topics in Zoology. (2-4). No more than a total of six credit hours earned from among Biol. 610, 640 and 660 may be applied toward major and graduation requirements. Students must complete a Directed Independent Study Abstract form and obtain departmental approval prior to enrollment. Prerequisite: Biol. 204. A 12 640 4 0407

650. Pathogenie Microbiology. (4). 2R; 6L. (Offered spring semester only.) An introduction to the important pathogenie microorganisms and their relationship to health and disease in man. Students earning graduate credit are expected to prepare a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisite: Biol. 330. A 12 650 1 0411

658. Microbial Physiology. (3). (Offered fall semester in odd-numbered years.) The physiology and metabolism of microorganisms. All study and examinations are based on the technical literature resulting in several written reports or a comprehensive term paper chosen in consultation with the instructor. Prerequisite: Biol. 204. A 12 658 0 0422

659. Microbial Physiology Laboratory. (3). 6L. (Offered fall semester in odd-numbered years.) An introduction to the basic techniques involved in the study of microbial physiology. Students earning graduate credit are expected to design and perform an additional experiment in consultation with the instructor and present the results in written form using the format of a scientific journal chosen in consultation with the instructor. Prerequisites: Biol. 330 and Chem. 531. A 12 659 1 0411

666. Special Topics in Biochemistry. (3). (Offered spring semester in even-numbered years.) A course designed primarily for students who choose the biochemistry field major. A small number of current problems in biochemistry and areas not covered in depth. Reading published research papers in the field is required. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 264, Chem. 662 and 663. A 12 666 0 0414

669. Research in Biochemistry. (2). Crosslisted as Chem. 669. SU/grade only. A course designed primarily for students who choose the biochemistry field major. Participation in a biochemistry research project under the direction of a faculty member and a written report summarizing the results is required. May be repeated once for credit. Prerequisites: Biol. 416 (no longer offered) or 590. Chem. 662 or 663. A 12 669 4 0414

671. Evolutionary Ecology. (4). 3R; 2L. (Offered fall semester in even-numbered years.) A synthesis of basic principles in population genetics and ecology is presented as a framework for the study of topics in evolutionary ecology. Emphasis includes (1) the maintenance and structure of population level genetic variation; (2) mating structure and the evolutionary advantages of sex; (3) individual, kin, group selection; (4) population demographic structure; (5) population regulation and dispersal; (6) life history strategies; and (7) demographic and genetic covariance. Basic techniques in population ecology are taught on several short field trips throughout the semester. Students earning graduate credit are expected to participate in a weekly seminar in addition to class hours. Prerequisite: Biol. 584. Biol. 418 also is recommended. A 12 671 1 0420

750. Biology Workshop. (1-3). A 12 750 2 0401

756. Microbial Genetics. (4). (Offered on irregular basis as demand warrants. Contact department for information.) The relationship between development, metabolism and genetics in microorganisms. Students earning graduate credit are expected to prepare a term paper on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 330 and 584 or departmental consent. A 12 756 0 0422

780. Molecular Genetics. (3). (Offered on irregular basis as demand warrants. Contact department for information.) Study of the biochemical nature of genetic material and the mechanisms of genetic regulation of metabolism. Students earning graduate credit are expected to produce a term paper and deliver a class seminar based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 584 or instructor’s consent. A 12 780 0 0422

799. Advanced Immunology. (3). (Offered on irregular basis as demand warrants. Contact department for information.) Controversial problems in immunologic research. Lectures, assigned readings and reports are included. Students earning graduate credit are expected to produce a term paper based on the technical literature on a topic chosen in consultation with the instructor. Prerequisites: Biol. 330 and Chem. 531. A 12 659 1 0411
consultation with instructor. Prerequisites: Biol. 590 and instructor’s consent. A 12 790 0 0416

798. Biology Seminar. (2). Reviews of current research in biological sciences. Repeatable once for credit. A 12 798 9 0401

Courses for Graduate Students Only

890. Research. (2-5). S/U grade only. Students performing research on their thesis projects should enroll for an appropriate number of hours. An oral presentation of the research results must be presented to the student’s thesis committee before a grade is assigned. A 12 890 4 0499

891. Thesis. (2). S/U grade only. Students must be enrolled in this course during the semester in which the thesis is defended. A 12 891 4 0499

Chemistry

The chemistry department offers a broad and flexible curriculum leading to a variety of degrees and options: Bachelor of Science (BS) in chemistry, Bachelor of Science in chemical science, Bachelor of Science in chemistry—chemical physics option, Bachelor of Arts (BA) in chemistry, biochemistry and business field major (BS) and chemistry/business field major (BS).

Bachelor of Science in Chemistry. This program requires Chem. 302, 505, 514, 524, 532, 545, 546, 547 and 615 and their necessary prerequisites, including Math. 344 and Phys. 314, 315 and 316 or their equivalents. An additional ten credit hours of professional elective courses must be taken. At least four credit hours of these courses must be selected from chemistry courses above 610 (701 is excluded). Courses that will satisfy the professional elective requirement are: (a) Chem. 690 and 669; (b) most elective chemistry courses above 600; (c) numerical methods: Chem. 502, Math. 551, CS 501; (d) electronics: Chem. 625 and 725, EE 492; (e) mathematics courses with Math. 344 prerequisite; (f) physics courses with Phys. 314Q prerequisite; (g) foreign language: one academic year of German or French; and (h) other courses as may be approved (approved required) by student request to the Chemistry Advising Committee.

In agreement with the American Chemical Society Committee on Professional Training, the chemistry department strongly encourages students studying for the BS degree to select courses in computer science, economics, marketing and business and to utilize every opportunity to develop competence in technical writing and oral communication.

The curriculum for the BS in chemistry is approved by the American Chemical Society for the professional training of chemists. Students completing the program receive certification from the American Chemical Society. Students should consult with an adviser for details.

Bachelor of Science in Chemistry—Chemical Physics Option. Students may elect to participate in this option, which is a joint program with the Department of Physics. Students participating in this option are expected to satisfy the regular BS in chemistry requirements and take six credit hours of upper-division physics courses from Phys. 551, 621, 631, 612 and 714 or other approved courses. All students must take Chem. 642.

Students completing this option are eligible for certification by the American Chemical Society.

Bachelor of Science in Chemical Science. Students in premedical, pre-dental, pre-veterinary, pre-pharmacy, pre-optometry or other preprofessional programs may desire this option for which the following courses are required: Chem. 514, 524, 532 and 663 and their necessary prerequisites; Math. 144 or 242Q and one year of physics; six additional credit hours of chemistry courses numbered above 500 (Chem. 605 is recommended) and ten credit hours of Biol. 203Q and 204Q.

This program is designed for students not expecting to become professional chemists and therefore does not necessarily meet standards of certification by the American Chemical Society or entry requirements for graduate work in chemistry.

Bachelor of Arts in Chemistry. This degree requires Chem. 524, 532, 545, 546 and 547 and the necessary prerequisites, including Math. 344 and one year of physics or their equivalents. Students with a substantial interest in the biological sciences may satisfy the BA requirements by substituting Chem. 662 and 664, or Chem. 663, for Chem. 524 (then Chem. 523 is required) or by substituting Chem. 662 or 663 for Chem. 546.

Students who meet the requirements of the BA program may be certified by the American Chemical Society if they also take Chem. 514, 524, 546 and 615 and six hours of professional development courses. Students planning to become teachers of chemistry should complete the bachelor of arts program.

Biochemistry Field Major. The departments of biological sciences and chemistry participate jointly in this program. Students selecting this major should seek the advice of one of the departmental chairpersons as early as possible. The required courses are: Biol. 203Q, 204, 500 and 584; Chem. 111Q, 112Q, 523, 531, 532, 662, 663 and 664; Phys. 213Q and 214Q and Math. 112 or 111 and 123. Also required are Chem. 666 and 669 (two enrollments), which are cross-listed in the Department of Biological Sciences, and 21 hours of biochemistry electives.

Chemistry/Business Field Major. The Charles M. Buesch program in chemistry/business is designed for students who wish to pursue careers in chemical sales, management, advertising and other related areas. This program requires 30 hours of business courses as follows. Acct. 210 and 220; Econ. 201Q and 202Q; B. Law 435; Fin. 340; Mgmt. 360; and Mkt. 300, 405 and 608. In addition, approximately 30 hours of chemistry and mathematics are required: Chem. 111Q, 112Q, 523, 561 or 662, 531, 532 and 603 and Math. 144 or 242Q.

Students selecting this option should contact the chairperson of the Department of Chemistry as early as possible for advice.

Minor. The chemistry minor consists of at least 14 hours of chemistry courses and must include at least four hours from Chem. 523, 531 and 545. A 2.00 GPA is required.

Advising. All students pursuing one of the above degrees should consult closely with the Department of Chemistry in planning their program. Students should plan to begin required physical chemistry courses during their junior year (see below), thereby requiring that physics and calculus prerequisites be taken earlier. Some courses are not offered on a regular basis. Students should consult advisers.

Minimum Requirements in Chemistry Programs

Bachelor of Science

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 302</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 505</td>
<td>1</td>
</tr>
<tr>
<td>Chem. 514</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 531, 532</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 523, 524</td>
<td>8</td>
</tr>
<tr>
<td>Chem. 545, 546</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 547</td>
<td>2</td>
</tr>
<tr>
<td>Chem. 615</td>
<td>3</td>
</tr>
<tr>
<td>Chem. 600-800</td>
<td>4</td>
</tr>
<tr>
<td>Phys. 313Q, 314Q, 315Q, 316Q</td>
<td>10</td>
</tr>
<tr>
<td>Math. 112, 242Q, 243, 344</td>
<td>18</td>
</tr>
<tr>
<td>Professional elective</td>
<td>6</td>
</tr>
</tbody>
</table>

* Part of the required ten hours of professional elective courses (see description above).

Recommended Course Sequence

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, General Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>Math. 112, Precalculus Mathematics</td>
<td>5</td>
</tr>
</tbody>
</table>
### Bachelor of Arts in Chemistry

**Course**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem. 111Q, 112Q</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 531, 532</td>
<td>10</td>
</tr>
<tr>
<td>Chem. 523, 524</td>
<td>8</td>
</tr>
<tr>
<td>Chem. 545, 546</td>
<td>6</td>
</tr>
<tr>
<td>Chem. 547</td>
<td>2</td>
</tr>
<tr>
<td>Physics (one year)</td>
<td>10</td>
</tr>
<tr>
<td>Math. 112, 242Q, 243, 344</td>
<td>18</td>
</tr>
</tbody>
</table>

#### Lower-Division Courses

**101Q. The Science of Chemistry.** (3). Teaches students the basic concepts of chemistry that will aid them in understanding the physical world in which they live. There is no attempt to teach basic computational or laboratory skills; instead the emphasis is on such concepts as atomic and molecular theory, energy, structures and theories regarding why reactions occur. A 13 101Q 0 1905

**103Q. General Chemistry.** (5), 3R; 4L. Lab fee. A survey of inorganic, organic, and nuclear chemistry. Prerequisite: one year of high school algebra or Math. 011. A 13 103Q 0 1905

**110. Preparatory Chemistry.** (3). A general chemistry course for students who have not had adequate preparation in chemistry or physics. The course enables students to improve their problem-solving skills, briefly review mathematics relevant to general chemistry and introduce the basic chemical concepts of atoms, molecules, chemical reactions, chemical equations, gas laws and solutions. Credit is allowed in only one of the following courses: Chem. 101G, 103Q, 110 or 111Q. Prerequisites: one and a half units of high school algebra or Math. 011. A 13 110 0 1905

**111Q. General Chemistry.** (5), 3R; 4L. Lab fee. An introduction to the general concepts of chemistry. Chemical stoichiometry, atomic and molecular structure, bonding, some laws, states of matter and chemical periodicity are included. The Chem. 111Q-112Q course sequence is designed to meet the needs of students who may wish to take more than one course in chemistry. Credit is allowed in only one of the following courses: Chem. 111Q, 110G, 103Q or 110. Prerequisites: one and a half units of high school algebra or Math. 011 and either high school chemistry or physics or a college-level chemistry course. A 13 111Q 1 1905

**112Q. General and Inorganic Chemistry.** (5), 3R; 4L. Lab fee. Continuation of Chem. 111Q. Thermodynamics, gaseous and ionic equilibria, kinetics, nuclear chemistry, electrochemistry, qualitative analysis and an introduction to theories of bonding are included. Prerequisite: Chem. 111Q with a grade of C or better. A 13 112Q 1 1905

**123Q, General and Analytical Chemistry.** (5), 3R; 6L. Lab fee. An introduction to atoms, molecules, chemical arithmetic, gas laws, phase and ionic equilibria and electrochemistry. A laboratory introduction to quantative analysis, the course includes much of the material ordinarily presented in Chem. 523 and the use of a small digital computer in chemical computations. Students who successfully complete the Chem. 123Q-124Q sequence are not required to take Chem. 523. Prerequisites: one and a half units of high school algebra and one unit of high school laboratory science. A 13 123Q 1 1905

**124Q, General and Analytical Chemistry.** (5), 3R; 6L. Lab fee. Atomic and molecular structure, thermodynamic, kinetics and nuclear chemistry. Prerequisite: Chem. 123Q with a grade of C or better. A 13 124Q 1 1905

**201. Glass Blowing.** (1). 2L. Lab fee. A laboratory course utilizing the principles and techniques of glass blowing for the production of scientifically useful equipment. Prerequisite: recommendation of the chemistry department. A 13 201 1 1905

**281. Cooperative Education in Chemistry.** (1-4). The course permits chemistry students to participate in the Cooperative Education program. Offered CR/NCR only. A 13 281 2 1909

**302. Microcomputing for Chemists.** (1). An introduction to microcomputers and their application to the calculation aspects of chemistry. Topics include the BASIC language, computer graphics, function plotting, numerical methods for calculation, spreadsheet and database utilization and machine language programming. Prerequisite: Chem. 112Q. A 13 302 0 1905

**Courses for Graduate/Undergraduate Credit**

- **501. Acids, Bases and pH.** (1). The study of properties characteristic of acids and bases, typical acid-base reactions, indicators, pH, solution concentration, titration and buffers. The course begins with a study of Lewis structures and atomic, molecular, gas laws. Prerequisite: in-service elementary teacher or departmental consent. A 13 501 0 1905

- **505. Chemical Literature.** (1). A survey of chemical publications and the publication
process. The course is designed to give the student the ability to conduct a proper search of the literature for chemical information. Aspects of technical writing are also covered.

Prerequisite: Chem. 531. A 13 505 1 1905

514. Inorganic Chemistry. (3). Basic inorganic chemistry with emphasis on molecular structures, fundamental bonding concepts, ionic interactions, periodicity of the elements, systemsatics of the chemistry of the elements, acid-base chemistry and non-aqueous solvents, classical coordination chemistry and introductory bioinorganic chemistry. Prerequisite: Chem. 112Q with a grade of C or better. A 13 514 0 1906

523. Analytical Chemistry. (4). 2R; 6l. Lab fee. Evaluation of data, theory and application of gravimetric analysis and precipitation, neutralization and oxidation-reduction volumetric analysis. Prerequisite: Chem. 112Q with a grade of C or better. A 13 523 1 1909

524. Instrumental Methods of Chemical Analysis. (4). 2R; 6l. Lab fee. Introduction to electronic and optical methods of analysis and separation of complex mixtures, both inorganic and organic. In addition, basic computer programming is discussed as it applies to analytical chemistry. Prerequisite: Chem. 532 or 1240. A 13 524 1 1909

531. Organic Chemistry. (5). 3R; 6L. Lab fee. An introduction to the study of carbon compounds with emphasis upon reaction mechanisms, stereochemistry and spectrographic analysis. Prerequisite: Chem. 112Q or 1240 with a grade of C or better. A 13 531 1 1907

532. Organic Chemistry. (5). 3R; 6L. Lab fee. A continuation of Chem. 531 with emphasis upon the structures and reactions of principal functional groups. Topics of principal interest to preclinical and pharmaceutical majors of biological interest. Prerequisite: Chem. 531. A 13 532 1 1907

533. Elementary Organic Chemistry. (3). Basic organic chemistry with a special emphasis on topics of importance to health professions and education majors. Special emphasis is given to the role of organic 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 does not meet the needs of chemistry majors or premed students. Prerequisite: Chem. 112Q or equivalent. A 13 533 0 1907

540. Elementary Physical Chemistry. (5). An introductory treatment of thermodynamics, kinetics, quantum chemistry, spectroscopy and statistical thermodynamics for students not intending to become professional chemists. In contrast to the more formally theoretically oriented, traditional physical chemistry courses (545-546), this more practical course is a survey of most of the important areas of physical chemistry in a heuristic and applied manner. The concentrated one semester treatment serves as the basis for professional programs; students majoring in geology, engineering, biological sciences and physics; and field majors in biochemistry and chemistry-business. Prerequisite: Chem. 112Q or equivalent, Math. 2420 or equivalent and one semester of physics. A 13 540 0 1908

545. Physical Chemistry. (3). Thermodynamics. Gases, first law, thermodynamics, second and third laws, phase equilibria, solutions, chemical equilibria, electrochemistry and surface chemistry are studied. Prerequisites: Chem. 112Q, Math. 344 or its equivalent and one semester of college physics. A 13 545 0 1906

546. Physical Chemistry. (3). Kinetic theory, transport phenomena, quantum mechanics, spectroscopy and statistical thermodynamics. Prerequisites: one year of college physics and Math. 344. A 13 546 0 1906

547. Physical Chemistry Laboratory. (2). Lab fee. Physical chemistry experiments that illustrate principles learned in Chem. 545 and 546. Prerequisite: Chem. 545 or 546. A 13 547 1 1908

551. Introduction to Biochemistry. (3). A brief history of biochemistry, emphasizing the development of the biochemical concept of the nature of biomolecules—proteins, carbohydrates, lipids, nucleic acids and vitamins; molecular basis of bioenergetics and metabolism and storage, transfer and control of genetic information. This course meets the needs of majors from health-related programs and science education curricula. Prerequisite: Chem. 531 or 533 or one semester of organic chemistry. A 13 561 0 0414

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 1 1905

603. Industrial Chemistry. (3). The course is designed to bridge the industrial-academic gap. Topics covered include petroleum chemistry and major processes in industrial inorganic chemistry and basic environmental chemistry such as hazardous and nuclear waste disposal and air pollution will also be discussed. Topics in polymer chemistry include monomers, high polymers and resins, techniques of polymer characterization, structure property correlations and methodology in plastics and composites processing. Prerequisite: Chem. 532 or concurrent enrollment. A 13 603 0 1905

605. Medicinal Chemistry. (3). For students interested in chemistry related to the design, development and mode of action of drugs. The primary purpose of the course is to describe those organic substances that are used as medicinal agents and to explain the mode of action and chemical reactions of drugs in the body; to illustrate the importance and relevance of chemical reactions as a basis of pharmacological activity; drug metabolism, allergic reactions, carcinogenicity, etc.; and to bring about a better understanding of drugs. Topics include transport, basic receptors, drug-metabolism and chemicals of drugs, discussion of physical and chemical properties in relation to biological activity, drug design, structure-activity relationships and diagnostically useful drugs. Prerequisite: Chem. 532 or 533 or equivalent; a semester of biochemistry (Chem. 561 or 562) and a year of biology are strongly recommended. A 13 605 1905

613. Inorganic Chemistry Laboratory. (2). 6L. Lab fee. Experimental methods of inorganic chemistry. Prerequisite: Chem. 514 or concurrent enrollment. A 13 613 1 1906

615. Advanced Inorganic Chemistry. (3). Topics that will be covered include modern bonding theories, structure and spectra of inorganic compounds, coordination and organometallic chemistry, boranes, introduction to organosilicon chemistry, polyatomic inorganic environmental chemistry, mechanisms of inorganic reactions and solid state chemistry. Prerequisite: Chem. 514 and 546. A 13 615 0 1906

624. Advanced Analytical Chemistry. (3). 2R; 3L. Lab fee. Fundamental of absorption and emission spectroscopy, light scattering techniques, mass spectrometry, nuclear magnetic resonance, polarography, voltammetry and coulometry. Prerequisite: Chem. 524. A 13 624 1 1909

625. Electronics. (2). 1R; 4L. Lab fee. Provides a working knowledge of electronic devices and circuits for the student or research worker who has little or no background in electronics. Prerequisite: instructor's consent. A 13 625 1 1909

641. Advanced Physical Chemistry. (3). Introduction to quantum chemistry, atomic and molecular spectra, statistical thermodynamics and reaction rate theory. Prerequisite: Chem. 545. A 13 641 0 1908

642. Chemical Physics. (3). Topics in areas of currently interesting developments in chemical 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: Chem. 641 or instructor's consent. A 13 642 0 1905

662. Biochemistry of Cell Constituents. Catalysis, Oxidation, Photochemistry. (3). Study of major constituents of the cell: protein, carbohydrate, glycoprotein, lipid, nucleic acid, nucleoprotein; enzyme catalysis; biological oxidations and reductions in vivo and introduction to intermediary metabolism. A fundamental background of biology or microbiology is recommended but not essential. Biochemical and physical majors and students currently in Chem. 664. Prerequisite: 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, spin-golipids, sterols, amino acids and proteins; synthesis of porphyrins, amides and polyamines; synthesis and metabolism of purines, pyrimidines and nucleotides; synthesis and structure of QNAs, RNAs and proteins; organization and functioning of genes: evolution of proteins and nucleic acids; hereditary disorders of metabolism; mechanisms of action of hormones, estrogen and androgens; major nutrients and vitamins; body fluids and generalized tissues. A fundamental background of biology or microbiology is recommended but not essential. Prerequisite: Chem. 662. A 13 663 0 3414

664. Biochemistry Laboratory. (2). 1R; 6L. Lab fee. Practical training in biochemical procedures and literature searching; experiments include isolation, characterization and analysis of molecules, chromatography, electrophoresis, spectroscopy, enzyme kinetics and radioactive labeling techniques. Should be taken concurrently with Chem. 662 or Chem. 663. Prerequisite: Chem. 524 or equivalent. A 13 664 1 0414

666. Special Topics in Biochemistry. (3). (Offered spring semester in odd-numer
bered years.) A small number of current problems in biochemistry are discussed in depth. Reading of published research in the field is encouraged. Prerequisites: Bio 204 and Chem 662 and 663. A 13 666 9 9414

669. Research in Biochemistry. (2). Cross-listed as Biol. 669. S/U grade only. Students in the biochemistry field major participate in a biochemistry research project under the direction of a faculty member. A written report summarizing the results is required. May be repeated once for credit. Prerequisites: Biol. 416 or 500 and Chem. 662 or 663 and 664. A 13 666 4 0414

690. Independent Study and Research. (2-3). Studies performed must be directed by a faculty member in the Department of Chemistry. Repeatable for credit. A maximum of three credit hours may be counted toward graduation. Prerequisite: consent of the department. A 13 690 4 0150

700. Chemistry Seminar. (1). S/U grade only. 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 0150

701. Chemistry Colloquium. (1). S/U grade only. Speakers for the colloquium consist of outstanding chemists from other institutions and faculty. Repeatable for credit. A 13 701 9 0150

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 9 0150

709. Special Topics in Chemistry. (2-3). A discussion of topics of a special significance and interest to faculty and students. Offerings are announced in advance. Repeatable for credit. A 13 709 9 0150

712. Coordination Chemistry. (3). The study of the synthesis, characterization and properties of coordination compounds. Topics include nomenclature, fundamental bonding concepts, principles of synthesis, mechanisms of substitution and electron transfer reactions. Analysis and solid-state phenomena. Prerequisite: Chem. 615 or equivalent. A 13 712 9 0160

713. Physical Methods in Inorganic Chemistry. (3). An introduction to electronic and vibrational spectroscopy, magnetic susceptibility, EPR, NMR, Mossbauer spectroscopy and X-ray crystallography as applied to inorganic systems. Emphasis is placed upon interpretation of results for understanding the electronic and molecular structure of compounds. Prerequisite: Chem. 705 or equivalent. A 13 713 9 0160

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 1 9105

732. Advanced Organic Synthesis. (3). Discussion of modern synthetic methods in organic chemistry including concentration forming reactions, oxidation and reduction reactions, protective groups and organometallic chemistry. Prerequisite: Chem. 532. A 13 732 9 0107


741. Quantum Chemistry. (3). Theoretical bonding of atomic and molecular structure. Topics include the postulates of quantum mechanics, exact solution for the particle-in-a-box and the hydrogen atom, variation and perturbation techniques, electron spin, Hartree-Fock and configuration-interaction methods, molecular-orbital and valence-bond wave functions and Virial and Heilmann-Feynman theorems. Prerequisite: Math. 344 or equivalent. Corequisite: Chem. 705 or equivalent. A 13 741 9 0108

751. Introduction to Polymer Synthesis. (3). A study of the major synthetic routes to high polymers, including step growth, free radical, anionic, cationic and Zeigier-Natta polymerizations. Prerequisites: Chem. 531 and 532. A 13 751 9 0199

752. Polymers and Composites. (3). A study of the physical states of polymer systems (crystalline, liquid crystalline, amorphous), polymer failure processes, polymer blending and recycling, contact and reaction chemistry. Prerequisites: Chem. 531, 532, 545 and 546. A 13 752 9 0199

763. Structure-Function Analysis of Biomolecules. (3). An examination of the physical, chemical and biological tools used for studying biomolecules. Topics include application of radioisotopes; autoradiography; primary, secondary and tertiary structural analyses; equilibrium dialysis and reaction kinetics; high performance liquid chromatography; gas and liquid chromatography; spectroscopic, immunological and ligand binding methods. Prerequisites: one semester of undergraduate biochemistry and Chem. 546. A 13 763 0 0414

764. Physical Biochemistry I: Principles. (3). An examination of the physical principles that form the basis for the structure and activity of biological macromolecules. Topics covered include the conformational analysis of integral membrane proteins, protein-nucleic acid interactions, the higher order structures of proteins, nucleic acids, lipids and carbohydrates, energetics and bonding interactions, solution thermodynamics, and the treatment of chain statistics and macromolecular flexibility, transport processes and multiple binding equilibrium. Prerequisites: Chem. 545, 546 and 662 or equivalent. A 13 764 9 0141

Courses for Graduate Students Only

809. Special Studies in Chemistry. (2-3). Systematic study in selected areas of chemistry. Repeatable for credit. Course content differs from one offering to the next. A 13 809 9 0105

814. Organometallic Chemistry. (3). A study of the synthesis, structure, bonding, reactivity and industrial applications of organometallic and nonmetallic compounds. Prerequisite: Chem. 615 or equivalent. A 13 814 9 0106

815. Bioinorganic Chemistry. (3). The study of the role of inorganic chemistry in biological systems. Topics include electron transport, biological catalysis mediated by metal ions, metal storage and transport, ion transport and the role of transition metals in metabolism. Prerequisites: Chem. 615 and 663 or equivalents. A 13 815 9 0106

821. Equilibrium and Statistical Analysis in Analytical Chemistry. (3). The course will cover homogeneous and heterogeneous solution equilibrium calculations and statistical methods used in experiment design and data analysis. Prerequisite: Chem. 524 or equivalent. A 13 821 9 0105

822. Analytical Separations. (3). The theory and practice of analytical separation methods including gas and liquid chromatography, ion exchange and electrophoresis. Prerequisite: Chem. 524 or equivalent. A 13 822 9 0106

823. Analytical Spectroscopy. (3). Absorption (UV, visible, IR and atomic); emission: flame emission and atomic absorption spectrometry, molecular fluorescence and phosphorescence methods; Raman, nuclear magnetic resonance and electron spin resonance spectroscopy. X-ray methods. Lectures and discussions on theory and practice are given. Particular emphasis is placed upon instrumental design and operation of associated fact-free data. Prerequisite: Chem. 524 or equivalent. A 13 823 9 0109

824. Electroanalytical Chemistry. (3). Topics include voltammetry, polarography, chronamperometry and coulometry; reversible and irreversible diffusion controlled processes; CE (chemical reaction before electrical reaction) and catalytic reaction; and organic and voltammetry. Prerequisite: Chem. 524 or equivalent. A 13 824 9 0109

831. Advanced Physical Organic Chemistry. (3). Topics include molecular orbital theory, sigma tropo rearrangements, electrocyclic reactions, cyclodadditions, reactive intermediates and photochemistry. Prerequisite: Chem. 731. A 13 831 9 0107

832. Modern Synthetic Methods. (3). Discussion of retrosynthetic analysis, applications, asymmetric syntheses and stereochemistry. Prerequisite: Chem. 737. A 13 832 9 0107

833. Natural Products Chemistry. (3). A discussion of the structure, chemistry and biosynthesis of the alkaloids, steroids, terpenoids, carbohydrates and aromatic and aliphatic natural products. Prerequisite: Chem. 732. A 13 833 9 0107

834. Heterocyclic Chemistry. (3). An account of the physical and chemical properties of the main classes of heterocyclic compounds. Prerequisite: Chem. 732. A 13 834 9 0107

835. Bioorganic Chemistry. (3). Topics concern the chemistry of amino acids and peptides, enzyme structure and function and inhibitor design. Prerequisites: Chem. 662, 663, and 732 or 682 and concurrent enrollment in 663 and 732. A 13 835 9 0107

841. Advanced Quantum Chemistry. (3). Advanced applications of quantum mechanical methods to atomic and molecular problems will be considered. Topics include determinant wavefunctions, angular momentum coupling, time-dependent perturbation theory, relativistic considerations, tensor operator methods and molecular orbital calculations. Prerequisites: Chem. 705 and 741 or equivalents. A 13 841 9 0108

842. Chemical Kinetics. (3). A description of reacting systems, including the mathematical and experimental characteristics of sim-
ple 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. Prerequisites: Chem. 546 or equivalent. A 13 842 0 1908

843. Statistical Thermodynamics. (3). Boltzmann, Fermi-Dirac and Bose-Einstein statistical mechanics will be developed with applications made to gaseous-state and solid-state chemical problems. The relationship of statistical mechanics and thermodynamics will be emphasized. Applications of statistical thermodynamics to polymers will be considered. Prerequisites: Chem. 546, 745 or equivalents. A 13 843 0 1908

845. Chemical Thermodynamics. (3). A presentation of the basic three laws of thermodynamics in a classical framework designed to increase one's understanding of real physical systems. Course is designed to emphasize theory and its application to chemical systems. Prerequisites: Chem. 545, 546 and Math 344 or equivalents. A 13 845 0 1908

846. Molecular Spectroscopy. (3). The theoretical basis for spectroscopy and spectroscopic determinations of molecular structure. Topics include polyatomic 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 13 846 0 1908

847. Chemistry of Condensed Matter. (3). Topics will include thermodynamics, statistical mechanics, quantum chemistry and structural determinations of condensed phase matters. Emphases on metals, alloys, intermetallic compounds, composite materials and advanced materials will occur. Prerequisites: Chem. 741 and 745 or equivalents. A 13 847 0 1908

852. Techniques of Polymer Characterization. (3). A study of physical, spectroscopic and diffraction techniques to determine the size, structure and morphology of polymers. A 13 852 0 1999

861. Enzyme Mechanisms. (3). An introduction to the study of enzyme mechanisms. Modern approaches include steady-state, relaxation and chemical modification methods. Prerequisites: Chem. 662 or 663 or equivalent. A 13 861 0 0414

862. Biotechnology: Principles and Applications. (3). Course presents a broad, informed view of contemporary biotechnology, including its role in the production of premium products from biological raw materials. Biotechnology involvement for the production of products include energy, food, drink, flavors, chemicals, bioengineering, medicines and agricultural materials. Prerequisites: Biol. 203 and 204 or Chem. 662 or 663 or equivalents. A 13 862 0 0414

863. Analytical Biochemistry. (3). A review of modern analytical methods used in biochemistry and molecular biology including absorbance and fluorescence spectroscopy, chromatography (affinity, gel-filtration, HPLC, ion-exchange, ion-pair), gel electrophoresis, radioactive tracer methods; cloning, sequencing and recombinant DNA procedures.
areas related to electronic media/visual communication with permission of the adviser; the remaining four must be taken in electronic media/visual communication courses.


d. Speech Communication—Comm. 111 and 112, 211Q or 222, 211 or 213Q, 228Q or 325, and 15 hours of electives chosen from speech communication courses with the area adviser's consent. Speech communication majors are encouraged to participate in forensic activities.

5. The only exceptions to the above core requirements are the Speech Education and Combined Theatre/Speech Education sequences. These sequences certify students to teach Speech or Theatre/Speech in the public schools. Neither Speech nor Theatre/Speech Education sequence majors need to satisfy the communication core, the outside concentration or the portfolio requirements. Students specializing in speech who intend to teach at the secondary level must meet the following requirements for their area of specialization:

a. Speech Education (36 hours)—Comm. 111, 112, 130, 211, 213Q, 221Q, 222, 228Q, 650, 661 plus six hours elected with the area adviser's consent from speech communication courses.

b. Combined Theatre/Speech Education (39 hours)—Comm. 111, 112, 211, 213Q, 221Q, 228Q, 650 and 661; Thea. 243Q, 244 and 259; plus six hours of electives from theatre courses with the area adviser's consent.

Students planning to teach also should check the state certification requirements to make sure that they will meet these. Students must meet the requirements for the professional education sequence and, prior to admission to the student teaching semester, must have a 2.500 overall grade point average in their major field and recommendation from the major department.

Students in Fairmount College of Liberal Arts and Sciences must meet the graduation requirements for both Fairmount College and the College of Education.

Minor. A minor in the Elliott School of Communication consists of two core courses plus 12 hours of electives (with six hours at the 300 level or above) chosen with the approval of a sequence adviser.

Communication Core Courses

130. Communication and Society. (3) An introduction to the functions, processes and effects of individual and mass communication in American society. Economic, social and governmental impacts of such communication will be explored. Course will survey the Elliott School of Communication sequences and their related professional applications. A 32 130 0 0601

131. Visual Literacy. (3) An introduction to visual literacy through an examination of the constraints, opportunities and effects of each of the major visual mass media (print, photography, film and television). A 32 131 0 0601

230. Writing for the Mass Audience. (3) An introduction to the technique of writing for the mass audience, including emphasis on approach necessitated by technology in dealing with print, broadcast, advertising, public relations and public communication. Prerequisites: Engl. 102 and Comm. 111 or 112, with B or better in each. A 32 230 0 0601

330. Introduction to Communication Theory. (3) Various humanistic and scientific theories of communication are examined. Selected theories are used to generate critiques of specific communication events (interpersonal, group/organizational, public and/or mass). Prerequisites: junior standing; Comm. 111 or 112; Comm. 130 or departmental consent; Engl. 101 and 102; all with a C or better. A 32 330 0 0601

630. Communication Law and Responsibility. (3) Both oral and written aspects of communication law and responsibility are emphasized. General functions of the law will be addressed including the right to communicate, broadcast law and law of the press. More specific topics include discussion of the first amendment rights, libel, privacy, copyright, advertising, obscenity, pornography and corporate communication concerns. Prerequisites: junior standing and Comm. 130, or departmental consent. A 32 630 0 0601

Journalism

Lower-Division Courses

150B. Journalism Workshop. (1-3) A course designed to provide specialized instruction in journalism. A 32 150B 2 0699

240. Introductory Photojournalism. (3) 2R; 3L. Lab fee. Basic photographic theory and technique with emphasis on aspects of importance to journalists, writers and editors. Students take, develop and prepare pictures for publication. Department provides a limited number of cameras. Prerequisite: Comm. 230. A 32 240 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: Comm. 230. A 32 300 5 0602

322. Broadcast News. (3) 3R; 3L. Theory and techniques of preparing news for the broadcast media. Students prepare newscasts and news reports for public radio station KMWJ. Lab periods arranged with instructor. Prerequisite: Comm. 230. A 32 322 0 0603

324. Introduction to Advertising. (3) Survey of advertising fundamentals and practices, including copywriting, layout, visualization, market research and packaging. Prerequisite: Comm. 230 or departmental consent. A 32 324 0 0604

340. Applied Photojournalism. (3) 3L. Lab fee. Covering photographic assignments for the campus newspaper and other publications, under the overall supervision of a journalism instructor. Prerequisite: Comm. 240. A 32 340 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 relations and platform communication. A 32 350 0 0604

380Q. History of Communication. (3) The development of the mass media is studied in context with other historical events. American journalism from colonial days to the present is emphasized. Course includes bibliography and criticism in mass communication. A 32 380Q 0 0601

440. Advanced Photojournalism. (3) 3R; 3L Lab fee. Advanced photographic theory and technique with emphasis on the feature photo essay, advertising photography for charity news publications, and the photographers' personal viewpoints and philosophies. Using their own camera equipment and the department's laboratory facilities, students shoot, process and print photographs for publication. Prerequisite: Comm. 240. A 32 440 1 0602

Courses for Graduate/Undergraduate Credit

500. Advanced Reporting I. (3) 1R; 4L. A course for juniors and seniors on the techniques of reporting and writing the more complex and important types of news stories. Combined police beat stories and more economic reporting and includes the study and practice of journalistic interviewing. Prerequisites: junior standing, Comm. 230 and either 306 or 322. A 32 500 1 0602

502. Public Information Writing. (3) Basic journalism skills (as a result of journalism 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 32 502 0 0602

510. Editing. (3) 1R; 4L. Selection, evaluation and preparation of copy and pictures for publication. Coverage of writing, headline and caption writing and page layout. Prerequisites: junior standing and Comm. 230. A 32 510 1 0602

520. Seminar in Journalism. (3) Exploration of problems and controversies involving the press, the future of news, sources of news and consumers of news. Prerequisite: departmental consent. A 32 520 9 0601
522. Advanced Broadcast News. (3), 3R: 3L. A course in advanced techniques of preparing content for radio and television presentation with emphasis on actual work in radio and television newsrooms. Lab periods arranged with instructor. Prerequisite: Comm. 322. A 32 522 1 0603

525. Advertising Copywriting. (3). Detailed practice at writing various kinds of advertising copy, including print and broadcast forms. Emphasis is on terse, precise writing that evokes response sought by advertiser. Prerequisite: Comm. 324 or departmental consent. A 32 525 0 0603

550. Editorial Writing. (3). A study of editorial judgment, including practice in the writing of editorials and editorial page features and a study of research materials available to editorial writers. Prerequisites: junior standing and Comm. 230. A 32 550 0 0602

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: Comm. 320 or departmental consent. A 32 570 1 0602

571. Magazine Writing. (3). A course on writing for magazines with emphasis on analyzing the market and presenting articles to fit the needs of specific magazines. Prerequisite: Comm. 320 or departmental consent. A 32 571 0 0602

611. Media Management. (3). A study of the business and management aspects of the mass media designed to give journalism students an understanding of the interaction of the mass media. Prerequisite: junior standing or departmental consent. A 32 611 0 0602

622. Practicum in Broadcast Journalism. (3). Reporting and writing about events in the University and community. Story assignment and preparation will be done under the instructor’s guidance and will be broadcast over WSU Cable Channel 13. May be repeated for credit with adviser’s consent. Prerequisite: Comm 522 or instructor’s consent. A 32 622 1 0603

625. Advertising and PR Campaigns (3). Instruction and practice in constructing total advertising and public relations campaigns from market analysis and media selection to creation of the completed package. Prerequisite: Comm. 522 or departmental consent. A 32 625 0 0604

690. Journalism Internship. (3). On-the-job experience and training in news, advertising, public relations or radio or television news broadcasting. Prerequisite: departmental consent. A 32 690 2 0601

715. World Press. (3). A comparative study of press situations throughout the world with emphasis on press freedoms and press systems around the world with emphasis on press freedoms and press systems around the world. Prerequisite: junior standing. A 32 715 0 0601

720Q. Dimensions of Mass Communication. (3). A detailed study of mass media, their role as social institutions, their control, content and audience and their effects. A 32 720Q 0 0601

745. Special Topics in Journalism. (1-3). Directed individual research in various aspects of journalism and mass communica-
tion or related topics: communications theory, news, editorials, advertising and broadcast-
ing, repeatable for credit when topics differ substantially. Prerequisites: senior standing and departmental consent. A 32 745 3 0601

750A. Journalism Workshop. (1-3). A course designed to provide specialized instruction in journalism writing for magazines with emphasis on the writing of articles and the handling of the completed package. A 32 750A 2 0699

Speech Communication

General

Lower-Division Courses

111. Basic Public Speaking. (3). A study of basic principles of speaking and listening and as applied to public speaking. The course is designed for students wishing to enhance leadership potential by improvement in traditional public speaking situations. Course not creditable toward communication major. The University’s requirement in oral communication may be satisfied by completion of either Comm. 111 or 112. For satisfactory evaluation of speech proficiency an advanced standing examination is available. For further information, contact the Elliott School of Communication.) A 32 111 0 1506

112. Basic Interpersonal Communication. (3). To develop an awareness of the elements of interpersonal communication and to aid students in establishing more meaningful and satisfying interpersonal relationships through participation in group dynamics. The course is not counted toward a communication major. The University’s requirement in oral communication may be satisfied by completion of either Comm. 111 or 112. For especially qualified students, an exemption or advanced standing examination is available. For further information, contact the Elliott School of Communication.) A 32 112 0 1506

281. Cooperative Education. (1-4). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated for credit. Prerequisite: departmental consent. Offered for Cr/Nr only. A 32 481 2 1506

481. Cooperative Education. (1-4). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student’s academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated for credit. Prerequisite: departmental consent. Offered for Cr/Nr only. A 32 481 2 1506

Courses for Graduate/Undergraduate Credit

650. Instructional Communication. (3). The study and practice of communication concepts, processes, technologies and strategies related to formal instruction and learning outcomes. By means of structured experiences, students develop competencies in (1) determining appropriate instructional goals, (2) designing instructional strategies to achieve learning outcomes, (3) utilizing visual, oral and verbal communication skills to implement instructional strategies and (4) assessing the proficiency of communication skills used for instruction. Prerequisites: (a) speech communication, (b) electronic media or (c) speech education. Repeatable for credit in different topics only. A 32 650 9 1599

661. Directing the Forensics Program. (3). A study of the methods and procedures in coaching and directing the high school and college forensics programs. The role of the coach is introduced. Prerequisites: Comm 111 or 112. A 32 661 0 1599

665. Communicative Disorders. (3). Cross-listed as COD 705. A survey of speech language and hearing disorders; their identifica-
tion and treatment and the impact of the roles of the health and educational specialists in the total habilitative process. Background in normal communicative structures, processes and acquisition is provided for understanding communicative disorders. Areas included are speech and language disorders in children, adult aphasia, articulation disorders, voice disorders, cleft palate and stuttering, cerebral palsy and hearing impair.
ment. A 32 665 0 1220

675. Directed Study. (2-4). Cross-listed as Thea. 675. Individual study or projects. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 32 675 3 1599

750B. Workshops in Communication. (2-4). A 32 750B 2 1599

Electronic Media/Visual Communication

Upper-Division Course

349. Hostage and Crisis Negotiations. (3). Cross-listed as JAG 349. An introductory course focusing upon the study of negotiation management and techniques appropriate to the handling of hostage negotiations, barricaded subject negotiations and other exigent situations such as suicide and violent domestic disturbances. The use and training of special tactical and negotiations teams are examined. Prerequisites: JAG 100 and Comm. 111 or 112. A 32 349 2 1506

Lower-Division Courses

214. Radio Production. (3). Production and direction of radio programs. Hands-on use of all standard radio sound equipment to learn the techniques of sound blending and reproducing

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R. 2L means two hours of lecture and two hours of laboratory. The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 2R. 2L means two hours of lecture and two hours of laboratory.
I. A study of the basic concepts of public communication.

II. Review of the rhetorical foundations of English and American rhetorical thought. A 32 615 0 1506

III. Application of the theoretical framework and techniques of TV production, including operation of studio equipment and direction of TV programs. Prerequisite: instructor's consent. A 32 304 2 0603

200. Debate and Forensics. (2). Research and preparation for debate and individual speaking events, participation in intercollegiate debate and/or forensics competition and debate and forensics squad meetings. Repeatable for a maximum of four hours credit. May not be counted toward a major. Prerequisite: departmental consent. A 32 202 5 1506

211. Persuasive Speaking. (3). Training in improving man behavior in socially acceptable ways via the spoken word. A 32 211 0 1506

213Q. Argumentation and Advocacy. (3). A study of the principles of effective rational discourse, oral and written, dealing with controversial issues in public deliberative, forensic and educational settings. Includes valid and fallacious reasoning as well as tests of evidence. A 32 213Q 0 1506

211Q. Oral Interpretation. (3). Cross-listed as Thea. 221Q. The development of the mental, vocal and analytical techniques essential to the oral interpretation of literature. A 32 221Q 0 1007

222. Improving Voice and Diction. (3). Cross-listed as Thea. 222. A course for students wishing to improve their speaking voices and gain greater control over their pronunciation of spoken English. The course is performance oriented; however, the anatomy of the vocal mechanism and the international Phonetic Alphabet are studied for practical application in the improvement of voice and diction. A 32 222 0 1506

228Q. Small-Group Communication. (3). A study of the nature and functions of groups and development of skills for identifying and evaluating communication behavior as reflected in human interaction in small-group situations. A 32 228Q 0 1506

Upper-Division Courses

312Q. Nonverbal Communication. (3). A study of theory and research in nonverbal communication. Students explore different aspects of nonverbal communication and engage in original research and study in the field of nonverbal communication. Emphasis is given to the application of nonverbal communication to the total human communication process. Prerequisite. Comm. 111 or 112. A 32 312Q 0 1506

325. Business and Professional Speaking. (3). A study of the basic concepts of public speaking and discussions as they apply to the business and professional person. Emphasis is given to public presentations, group leadership and interpersonal communication as appropriate to business and professional oral communications. A 32 325 0 1506

335. Development of Rhetorical Theory. (3). Review of the rhetorical four basic contemporary communication theories from the perspective of selected individuals and works encompassing Graeco-Roman, Medieval English and American rhetorical thought. A 32 335 0 1506

400. Debate and Forensics. (2). Research and preparation for debate and individual speaking events, participation in intercollegiate debate and/or forensics competition and debate and forensics squad meetings. Repeatable for a maximum of four hours credit. May not be counted toward a major. Prerequisite: departmental consent. A 32 402 5 1506

Courses for Graduate/Undergraduate Credit

Fairmount College/Communication 155
712. Advanced Interpersonal Communication. (3). Advanced exploration of concepts and variables in interpersonal communication through the study of different theories as well as practical experiences in dyadic and small group communication. Prerequisite: Comm. 112 or instructor's consent. A 32 712 0 1506

722. The Art of Conversation. (3). Conversation is the form of communication people engage in most naturally and frequently, but about which they seldom think seriously. This course is designed to help participants enhance their understanding and appreciation of, as well as their skill in, the art of conversation. Possible topics include the nature of communication, types of conversational communication, conversation in the mass media, and conversation analysis. Prerequisites: Comm. 112 and junior standing or departmental consent. A 32 722 0 1506

737. Processes and Effects of Mass Communication. (3). An exploration into the effects of mass communication at the individual, social and cultural levels. A 32 737 0 1506

770. The Audience. (3). Application of research techniques to the measurement of audience behavior with particular emphasis on mass media audiences. Topics include focus group interviews, survey research and radio and television ratings. A 32 770 0 1599

Courses for Graduate Students Only

826. Investigation and Conference. (2-3). Cross-listed as Thea. 820. Directed research and experimentation for graduate students in some phase of (a) speech communication, (b) electronic media or (c) speech education. Repeatable for credit up to a total of six hours. A 32 820 3 1599

830. Theories of Rhetoric: Classical. (3). Cross-listed as Engl. 825. An intensive study of the theoretical 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 32 830 0 1599

831. Theories of Rhetoric: Renaissance to Early Modern. (3). Cross-listed as Engl. 826. A study of the rhetorical theories and practices of the Second Sophistic to modern times. Analysis is made of the rhetorical systems associated with such figures as Augustine, Ferdin, Bulwer, Sheridan, Stack, Rush, John: Quincy Adams, Blair, Campbell and Whately. A 32 831 0 1506

860. Seminars in Communication. (2-3). Special seminars designed to treat problems in: (a) speech communication, (b) electronic media or (c) speech education. Repeatable for credit. A 32 860 9 1599

880. Organizational Communication. (3). Cross-listed as Math 865. Analysis of communication models with emphasis on their applications to communication problems in organizations. Social-psychological processes underlying persuasion in interpersonal relations and the mass media are explored. Communication systems and techniques within formal organizations are analyzed critically. A 32 865 0 1506

Communications

The Master of Arts in communications (MA) is offered as an interdisciplinary program. Information on the MA can be found in The Wichita State University Graduate Bulletin.

Courses for Graduate Students Only

801. Introduction to Communications Research. (2). An integrative approach to an understanding of the nature and scope of communication research as it applies to communication theory, mass communication, cross-cultural communication and theater. An overview of the current status of research in these areas is provided. Students are instructed in the basic steps of research: accessibility of library and other resources; bibliographical search; computer processing of source materials; organization of style and format of a research report and citation of sources in footnotes and bibliographies in accordance with standard style guides. This course should be taken at the beginning of the graduate program. A 32 801 0 0601

802. Historical and Qualitative Methodologies in Communication Research. (2). An introduction to historical, critical and observational methodologies in communication research. The course emphasizes historical, critical and observational research with particular emphasis on those forms of research common to communication studies. Students study research design, methods and reporting techniques. Prerequisite: Comm. 801. A 32 802 0 0601

803. Empirical/Quantitative Research Methodology in Communication. (2). An introduction to empirical research methods in communication. The course emphasizes both experimental and nonexperimental research with particular emphasis on those forms of research common to communication studies. Students study research design, methods and reporting techniques. Prerequisite: Comm. 801. A 32 803 0 0601

870. Directed Research. (2-3). Directed research culminating in a written research paper on a specific investigation, project or production. Supervised by a committee of three graduate faculty members with the content of writing as "instructor of record" and awarding the grade. Required of all Master of Arts in Communications (MAC) degree students who select the nonthesis option. Study should be completed in the student's area of emphasis. Course should be taken after completion of 24 hours of graduate work approved in the plan of study. Not renewable for credit nor available to students taking Comm. 875-876. Prerequisites: Comm. 801 and Comm. 802 or 803. A 32 870 3 1599

875-876. Thesis. (2-2). A 32 875 4 0601; A 32 876 4 0601

Computer Science

Students may earn either the Bachelor of Science (BS) or the Bachelor of Arts (BA) degree in computer science. Both degrees provide in-depth preparation for professional work in industry or government. The BS degree is especially useful for scientific applications or preparation for graduate study in computer science.

Math Requirements: Students earning the BS degree must complete a minimum of 16 hours of college-level mathematics; those earning the BA degree must complete a minimum of nine hours of college-level mathematics. (See details below.)

Sequence Electives: Both the BS and BA degrees in computer science require that students complete 15 hours of sequence electives. These 15 hours of associated course work give students some knowledge of a field where computers might be used. Most frequently chosen are such computer science fields as artificial intelligence, software engineering and systems analysis or related fields such as business, electrical engineering and mathematics. All sequence electives must be approved by the departmental advisor.

Major: Bachelor of Science (BS). This degree requires a minimum of 40 hours of computer science and 16 hours of mathematics including the following courses:

- Computer Science: 140, 200Q, 212, 216, 300, 340, 405, 420, 485, 501, 510, 540, 560 and an additional computer science language.
- Mathematics: 112 (or equivalent), 242Q, 243, 211, 331Q.

Sequence Electives: 15 hours of course work chosen in consultation with the departmental academic adviser. (See above for details.)

Major: Bachelor of Arts (BA). This degree requires a minimum of 34 hours of computer science and nine hours of mathematics, including the following courses:

- Computer Science: 140, 200Q, 212, 216, 300, 340, 405, 420, 485, 510, 540 and an additional computer science language.
- Mathematics: 111 (or equivalent), 211, 331Q.

Sequence Electives: 15 hours of course work chosen in consultation with the departmental academic adviser. (See above for details.)

Minor: The minor requires a minimum of 15 hours of computer science course work, including the following courses:

- Computer Science: 140, 200Q, 212, six hours of upper-division computer science course work and an additional course of the student's choice.
- Mathematics: Math 111 (or equivalent) and 211. These courses are prerequisites to the required computer science courses.

Model Program for BS in Computer Science

Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engl. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Math 112, Pre-Calculus Math</td>
<td>5</td>
</tr>
<tr>
<td>Natural science Q/G (biology)</td>
<td>4</td>
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</table>
**Freshman Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Engl. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Math 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking or 112, Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 200Q, Introduction to Programming</td>
<td>2</td>
</tr>
<tr>
<td>Engl. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Natural science Q/G (biology)</td>
<td>3-5</td>
</tr>
<tr>
<td>Hist. 131Q or 132Q or Pol. S. 121Q</td>
<td>3-4</td>
</tr>
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**Sophomore Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>CS 212, Pascal Programming</td>
<td>3</td>
</tr>
<tr>
<td>Math 243, Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>Humanities Q/G (literature)</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
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<tr>
<td>Elective</td>
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**Junior Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
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<tbody>
<tr>
<td>CS 340, Computer Organization and Programming</td>
<td>3</td>
</tr>
<tr>
<td>CS 405, File Processing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Math. 331Q, Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CS SEQUENCE ELECTIVE</td>
<td>3</td>
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<tr>
<td>Humanities Q/G</td>
<td>3</td>
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**Senior Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>CS Language of choice</td>
<td>3</td>
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<tr>
<td>CS 560, Data Structures</td>
<td>3</td>
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<tr>
<td>CS SEQUENCE ELECTIVE</td>
<td>3</td>
</tr>
<tr>
<td>Humanities or social and behavioral science*</td>
<td>3</td>
</tr>
<tr>
<td>Natural science (non-biology)</td>
<td>3</td>
</tr>
</tbody>
</table>

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**Model Program for BA in Computer Science**

**Freshman Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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</thead>
<tbody>
<tr>
<td>Engl. 101, College English I</td>
<td>3</td>
</tr>
<tr>
<td>Math 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking or 112, Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
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**Second Semester**

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<th>Course</th>
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<tr>
<td>Engl. 102, College English II</td>
<td>3</td>
</tr>
<tr>
<td>Natural science Q/G (biology)</td>
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<tr>
<td>Hist. 131Q or 132Q or Pol. S. 121Q</td>
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<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>CS 212, Pascal Programming</td>
<td>3</td>
</tr>
<tr>
<td>Math. 211, Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language 111</td>
<td>5</td>
</tr>
<tr>
<td>Humanities Q/G (literature)</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
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**Junior Year**

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<tr>
<td>CS 405, File Processing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language 2XX</td>
<td>5</td>
</tr>
<tr>
<td>CS SEQUENCE ELECTIVE</td>
<td>3</td>
</tr>
<tr>
<td>Humanities Q/G</td>
<td>3</td>
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**Senior Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS Language of choice</td>
<td>3</td>
</tr>
<tr>
<td>CS 420, Concepts of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>Natural science (non-biology)</td>
<td>3</td>
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<tr>
<td>Social and behavioral science</td>
<td>3</td>
</tr>
<tr>
<td>Humanities or social and behavioral science*</td>
<td>3</td>
</tr>
</tbody>
</table>

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*Choice depends on Math. Govt. selection.

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**Note:** To enroll in a computer science course, students must earn a grade of C or better in Engl. 101 and one of the following: Math. 108, 111, 112, or 211. Exceptions to this prerequisite are the following courses designed for nonmajors: CS 105, 1100, and 150.

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**Lower-Division Courses**

105. An Introduction to Computers. (3).
2R; 3L. This course is a computer literacy course for students who wish to familiarize themselves with the computer. It covers basic computer concepts in hardware and software and includes a wide range of applications in education, government, business, industry, and the home. Students gain experience in actually operating a microcomputer through lab exercises using standard software packages. These include word processing, spreadsheet, data base and graphics packages. No credit toward the major or minor in computer science. Credit is granted in only one of the following: CS 1100 or 105. Prerequisites: familiarity with typewriter keyboard and minimal typing skills. A 34. 105 1 0701

1100. An Introduction to Computers and Their Applications. (2). 2R; 2L. An introductory course offers practical knowledge for students who wish to familiarize themselves with the computer. It covers basic computer concepts in hardware and software and includes a wide range of applications in education, government, business, industry, and the home. No credit toward the major or minor in computer science. Credit granted only if one of the following: CS 1100 or 105. Prerequisites: familiarity with typewriter keyboard and minimal typing skills. A 34. 1100 1 0701

140. Introduction to Computer Hardware. (3).
2R; 2L. An introduction to digital computer hardware. Topics include number systems, Boolean logic, computer components and programming. The laboratory is used for extension of the concepts introduced in lecture and for drill. Students use an elementary laboratory computer and build simple electrical circuits like the kind found in current computers. Prerequisites: Math. 108, 111 and Math 1011, 112 or 211 with a grade of C or better in each. A 34. 140 1 0702

150. Workshop. (1-5). Short-term courses with special focus on introducing new computer techniques. Repeatable for credit. Prerequisites: Math. 101 and Math 108, 111, 112 or 211, or equivalent with a grade of C or better in each. A 34. 150 2 0701

160. Introduction to Programming for Business. (3).
2R; 2L. The course is a survey of the means and methods of business data processing. It includes the description of computer hardware used in the business environment and an introduction to software and systems development. This course is not equivalent to CS 2000 and cannot be substituted for it in the computer science major. No computer science language class can be taken concurrently. Prerequisites: Math. 101 and Math 108, 111, 112 or 211 or equivalent with a grade of C or better in each. A 34. 160 1 0703

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FAIRMOUNT COLLEGE/COMPUTER SCIENCE

Comm. 111, Basic Public Speaking or 112, Interpersonal Communication

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>CS 140, Introduction to Computer Hardware</td>
<td>3</td>
</tr>
<tr>
<td>CS 200Q, Introduction to Programming</td>
<td>2</td>
</tr>
<tr>
<td>Math. 111, College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Comm. 111, Basic Public Speaking or 112, Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
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</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 300, Fundamental Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CS 216, Assembly Language Programming</td>
<td>3</td>
</tr>
<tr>
<td>Natural science Q/G</td>
<td>3</td>
</tr>
<tr>
<td>Hist. 131Q or 132Q or Pol. S. 121Q</td>
<td>3-4</td>
</tr>
<tr>
<td>Elective</td>
<td>1-3</td>
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Junior Year

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<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>CS 340, Computer Organization and Programming</td>
<td>3</td>
</tr>
<tr>
<td>CS 405, File Processing Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Math. 331Q, Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>CS SEQUENCE ELECTIVE</td>
<td>3</td>
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<tr>
<td>Humanities Q/G</td>
<td>3</td>
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</table>

Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>CS 420, Concepts of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CS 540, Operating Systems and Architecture I</td>
<td>3</td>
</tr>
<tr>
<td>CS 501, Numerical Programming Techniques</td>
<td>3</td>
</tr>
<tr>
<td>CS SEQUENCE ELECTIVE</td>
<td>3</td>
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<tr>
<td>Social and behavioral science Q/G</td>
<td>3</td>
</tr>
</tbody>
</table>

Senior Year

<table>
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<th>Course</th>
<th>Hrs.</th>
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<tbody>
<tr>
<td>CS Language of choice</td>
<td>3</td>
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<tr>
<td>CS 560, Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS SEQUENCE ELECTIVE</td>
<td>3</td>
</tr>
<tr>
<td>Humanities or social and behavioral science*</td>
<td>3</td>
</tr>
<tr>
<td>Natural science (non-biology)</td>
<td>3</td>
</tr>
</tbody>
</table>

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*Choice depends on Amt. Govt. selection.
2000. Introduction to Programming. (2). An introduction to the process of analyzing problems and describing their solutions in procedural-oriented languages. Topics include concepts and uses of computers, functions, algorithms, program documentation and a survey of computer programming languages. Prerequisites: Engl. 101 and Math. 109, 111, 112 or 211 or equivalent with a grade of C or better in each. A 34 200Q 0 704

201. FORTRAN Language. (3). 2R; 2L. Fundamentals of computer programming in FORTRAN and their application to problems. Prerequisites: CS 200Q, Engl. 101 and Math. 109, 111, 112 or 211 with grades of C or better; or departmental consent. A 34 201 1 0704

202. PL/I Language. (3). 2R; 2L. Fundamentals of computer programming in PL/I and their application to problems. Prerequisites: CS 200Q, Engl. 101 and Math. 109, 111, 112 or 211 with grades of C or better; or departmental consent. A 34 202 1 0704

205. COBOL Language. (3). 2R; 2L. Fundamentals of computer programming in COBOL and their application to problems. Prerequisites: CS 200Q and Engl. 101 and Math. 109, 111, 112 or 211 with grades of C or better; or departmental consent. A 34 205 1 0704

206. BASIC Language Programming. (3). 2R; 2L. Fundamentals of computer programming in BASIC and their application to problems. No credit granted toward the major in computer science. Prerequisite: CS 105, 190 or 200Q. A 34 206 1 0704

207. C Language. (3). 2R; 2L. Fundamentals of computer programming in C and their application to problems. Prerequisites: CS 140 and 212 or another high-level programming language or departmental consent. A 34 207 1 0704

208. Module-2 Programming. (3). 2R; 2L. Fundamentals of computer programming in Module-2 and their application to problems. Prerequisites: CS 140 and 200Q, Engl. 101 and Math. 109, 111, 112 or 211 with a grade of C in each. A 34 208 1 0704

212. Pascal Programming. (3). 2R; 2L. Fundamentals of computer programming in Pascal and their application to problems. Prerequisites: CS 200Q, Engl. 101 and Math. 109, 111, 112 or 211 or equivalent with grades of C or better; or departmental consent. A 34 212 1 0704

213. PROLOG Programming. (3). 2R; 2L. Fundamentals of declarative programming in PROLOG and their application to problems. Prerequisites: Phil. 125Q and Math. 109 or 111 or 112; and Eng. 101 with a C grade in each. A 34 213 1 0704

214. LISP Programming. (3). 2R; 2L. Fundamentals of computer programming in LISP and their application to problems. Prerequisites: CS 200Q, Engl. 101 and Math. 109, 111, 112 or 211 or equivalent with grades of C or better; or departmental consent. A 34 214 1 0704

215. Ada Language. (3). 2R; 2L. Fundamentals of computer programming in Ada and their application to problems. Prerequisite: CS 212 or equivalent with a grade of C or better. A 34 215 1 0704

216. Assembly Language Programming. (3). 2R; 2L. Fundamentals of computer programming in 370 BAL and their application to problems. Prerequisites: CS 140 and 200Q or equivalent and one course numbered 201 through 214 with grades of C or better. A 34 216 1 0704

222. Introduction to Programming with Pascal. (5). 4R; 2L. An introduction to the process of analyzing problems and designing solutions in Pascal language. Topics include basic computer concepts in hardware and software, the uses of procedural languages, writing algorithms and program documentation. The course is a one-semester course that combines the usual two-semester sequence of CS 200Q and 212. Credit in both CS 222 and 200Q or 212 is not allowed. Prerequisites: Math. 109, 111, 112 or 211 (or equivalent) with a grade of C or better in each prerequisite course. Also open to students who have earned equivalent college credit in English and/or math via the CLEP or the ACT exam scores. A 34 222 1 0704

Upper-Division Courses

300. Fundamental Algorithms. (3). 2R; 2L. An introduction 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 allow the student to apply the material. Prerequisites: CS 200Q, 212 and Math. 211 with a grade of C or better; or departmental consent. Math 211 may be taken concurrently. A 34 300 1 0704

340. Computer Organization and Programming. (3). 2R; 2L. A study of basic computer architecture and programming techniques. Topics include number representation, arithmetic communication between major computer components, instruction processing cycle, addressing techniques and the concepts of microprograms. Programming problems will demonstrate the concepts. Prerequisite: CS 216 or EE 228 with a grade of C or better. A 34 340 1 0702

350. Microcomputing for Scientists and Engineers. (3). 2R; 2L. An introduction to microcomputers and their applications in science and engineering. Topics include Pascal language, assembly language, numerical methods, graphics, file operations, software and hardware interfacing, device control and data acquisition. Actual use of microcomputers for experiment control and evaluation is emphasized. Credit not granted toward the major in computer science. Prerequisites: Chem. 111Q, 123Q, Phys. 111Q, 213Q or Eng. 125. A 34 350 1 0704

365. Introduction to Computer Graphics. (3). 2R; 2L. An introduction to interactive computer graphics which presents the basic concepts of the field. Topics include geometry of graphics primitives, two- and three-dimensional representation, transformation, data structures, windowing and clipping, hidden lines and surfaces and shading. Extensive use of computers provide practical experience. Prerequisite: CS 300. A 34 365 0 0704

405. File Processing Techniques. (3). 2R; 2L. Extending the student's knowledge of algorithm and data structure design to include file I/O processing. Topics include file blocking, compaction, sequential access and updating, external sort/merge, random access, file data base, indexes, list file structure and trees. Prerequisite: CS 300 with a grade of C or better. A 34 405 1 0704

420. Concepts of Computer Science. (3). Selected theoretical areas in computer science are introduced. Several independent topics are presented to interest the student in further study. Prerequisite: one course in computer science. A 34 420 0 704

481. Cooperative Education in Computer Science. (1-3). The goal of this course is to provide the student with a field placement that integrates theory with a planned and systematic software development experience designed to complement and enhance the student's academic program. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. Prerequisite: department consent. Offered Cr/NCr only. A 34 481 2 0701

485. Debugging Techniques. (2). A study of the methods of locating errors in computer programs. Topics include code verification, test data selection, compiler options and debugging software. The student will apply the techniques learned by assisting other students for three hours each week in a debugging practicum. Prerequisites: CS 340 and 405 and three credit hours each with grades of C or better. A 34 485 1 0705

497. Special Topics. (1-3). Special topics of current interest in computer science. Prerequisite: departmental consent. A 34 497 0 0701

498. Individual Projects. (2-3). Repeatabl for a total of six hours of credit. Graded S/U only. Prerequisite: departmental consent. A 34 498 4 0701

Courses for Graduate/Undergraduate Credit

501. Numerical Programming Techniques. (3). 2R; 2L. A study of the programming techniques used to solve nonlinear equations, interpolate, integrate and solve systems of linear equations. The implementation of finite precision floating point arithmetic are discussed. Techniques for initial and boundary value problems in ordinary differential equations are also covered. Selected algorithms are implemented on the computer. Prerequisites: Math. 243 and CS 300 with grades of C or better. A 34 501 1 0704

510. Programming Languages. (3). Formal definition of programming languages, including syntax and semantics. Also examined are underlying properties of algorithmic languages, including scope of declarations, storage allocation, grouping of statements, binding time of constituents, subroutines and procedures. Practical experience. Prerequisites: Math. 300 with a grade of C or better. A 34 510 0 0704

512. Systems Programming. (3). 2R; 2L. A study of system software including assemblers, dissemblers, macroprocessors, link editors, loaders, language translators and debuggers. Practical experience in building system software through problem solving and laboratory exercises. Prerequisite: CS 405 or equivalent with a C or better grade. A 34 512 1 0704

515. Compiler/Interpreter Techniques. (3). 2R; 2L. Review of programming language structures, translation and implementation. Compilations of simple expressions and statements. Overall design and organization of compilers and interpreters, including lexical and syntactic scan, construction of symbol tables, object code generation, diagnostic.
tic error messages and optimization techniques. Prerequisite: CS 510. A 34 515 1 0704

527. The History of Computing. (3). Cross-listed as Hist. 527. This course is a study of the development of automatic computing machines and the mechanisms of control and programming. Topics discussed include mechanical computers, electronic digital computers and both mechanical and electronic analog computers, as well as the conceptual origins of computing. A 34 527 0 0701

540-541. Operating Systems and Architecture I and II. (3-3). Design of computer systems emphasizing software and computer architecture. Batch processing systems and their operating characteristics are reviewed, including addressing techniques, memory management, file design and systems accounting. Concurrent processes are discussed for both hardware and software, including topics such as I/O devices, controllers, interrupts, queuing, resource allocation, asynchronous processes, paging, recovery, protection and synchronization in multiprocessing and multiprogramming systems. Advanced architectures and operating system implementations are considered. Prerequisites for 540: CS 300 and 340 with grades of C or better; for 541: CS 540. A 34 540 0 0702; A 34 541 0 0702

560. Data Structures. (3). The formal specification and design of linear lists, arrays, ordinal lists and multilinked structures are studied and representation via trees and graphs and searching and sorting techniques are examined. Prerequisite: CS 405 and Math 3310 with grades of C or better in each. A 34 560 0 0702

565. Data Base Design. (3). Principles of data base design and management for computer information systems. Several logical organization and file design techniques are examined. Problems of security and integrity of data are also discussed. Prerequisite: CS 405. A 34 565 0 0702

574. Artificial Intelligence and Philosophy. (3). Cross-listed as Phil. 574. Transfer of ideas between artificial intelligence and philosophy: the nature, source and consequences of artificial intelligence and their application in philosophy (search, heuristic problem solving, knowledge representation, learning, discovering); sources of insight for artificial intelligence in different branches of philosophy. The analogy between minds and computers "cognition is a computation and the mind is a computer" is contrasted with "there are mental features not accessible to computation." The relevance of Goden's theorem and of other results in the domain of computability are discussed. Prerequisites: at least one 300-level course in computer science or philosophy; Math 243; five hours toward the major in any of the physical or biological sciences; or departmental consent. A grade of C or better must be earned in each prerequisite. A 34 574 0 0701

580. Introduction to Software Engineering. (3). 2R; 2L. An introduction to the body of knowledge, presently available tools and current theories and conjectures regarding the process of program development. These topics are considered from different viewpoints, ranging from the individual program statement to a large programming project. Prerequisites: CS 340 and 405 and three CS courses numbered 201 through 216. A 34 580 1 0704

611. Ada and Software Engineering. (3). 2R; 2L. An in-depth study of the programming language Ada with an emphasis on understanding the software engineering principles on which its design is based. Focus is on the novel features which have to offer such as packages, generics, incremental compilation and multithreading structures. Laboratory sessions provide hands-on programming experience to reinforce textbook knowledge of the language. Prerequisite: CS 510. A 34 611 1 0704

640. VLSI Systems Design. (3). 2R; 2L. Topics include an introduction to VLSI system, MOS switch, integrated system fabrication, data and control flow in systematic structures, implementing integrated system design with VLSI system, and system timings and highly concurrent systems. Prerequisite: CS 400 or equivalent. A 34 640 1 0702

641. 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 microcomputers and the special features of small computers, such as horizontal and vertical micro-programming; use of display terminals, cassettes, tapes and discs; networks of small computers, and trends in small computer use and design. Prerequisite: CS 340 or EE 394. A 34 641 0 0702

684. Applications Systems Analysis. (3). A study of the methods for analyzing business systems problems and other large-scale applications of the computer. At the crossroads of computer technology, management science and system design, the systems analysis is the cornerstone in the education of the well-trained computer applications analyst. Topics include systems design, cost benefit analysis of data base, distributed processing, project management and documentation. Prerequisite: CS 405 or substantial programming experience with departmental consent. A 34 684 0 0705

697. Selected Topics. (1-3). Selected topics of current interest. Repeatable for credit with departmental consent. Prerequisites: A 34 697 0 0701

720. Theoretical Foundations of Computer and Information Sciences. (3). This course provides an advanced level introduction to the theoretical bases of computer science and related concepts in information science. Computer science theory includes the various models of finite state machines, both deterministic and nondeterministic, plus the concepts of decidability, computability and formal language theory. Topics in information science include information theory, computer science, and related concepts in mathematics and physics. Prerequisites: CS 420 or graduate standing. A 34 720 0 0701

742. Computer Communication Networks. (3). 2R; 2L. Introduction to computer communication networks, including topics such as network goals, data transmission, network topologies, connectivity analysis, delay analysis for networks of M/M/1 queues, network architecture, protocol hierarchies, design issues for the layers and the ISO reference model and protocol descriptions for present computer communication networks. Prerequisite: CS 400 or equivalent. A 34 742 1 0701

790. Workshop in Computer Science. (1-5). Short-term courses with special focus on introducing computer science concepts. Repeatable for credit. Prerequisite: departmental consent. A 34 750 2 0701

771. Artificial Intelligence. (3). Heuristic versus algorithmic methods, principles of heuristic approach and cognitive processes. Also covered are objective 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 300. A 34 771 0 0704

773. Pattern Recognition. (3). An introduction to pattern recognition and image processing, including clustering algorithms, cluster validity, feature extraction, classifier design, Bayes decision theory, parameter estimation, discriminant functions, syntactic pattern recognition, image registration, FFT, texture and application in various fields. Prerequisites: CS 212 and 300 and Math. 211 or 511 and 3310 with grades of C or better. Stat. 370 recommended but not required. A 34 773 0 0701

775. Expert Systems. (3). Planning, construction and application of expert systems. Major aspects of expert systems are discussed and illustrated with various examples, including data representation, knowledge bases, inference engines, user interfaces, and explanatory facilities, metaphors and dealing with uncertainty. Basics of a production system language are introduced. Prerequisite: CS 600 or instructor's consent. A 34 775 0 0799

798. Individual Projects. (1-3). Allows beginning graduate students and mature undergraduate students to pursue individual projects of current interest in computer science. Graded S/U only. Prerequisite: departmental consent. A 34 798 3 0701

Courses for Graduate Students Only

No computer science graduate students will be admitted to 800-level courses until they have completed CS 720.


810. Programming Languages: Advanced Concepts. (3). An advanced study of programming language structures and design. Data and control structures and their abstraction. Concurrent programming structures and formal specifications of syntax and semantics, including models for establishing program correctness. Criteria for language design. Prerequisites: CS 510 and 720. A 34 810 0 0704

821. 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, are covered. Specific techniques, such as divide-and-conquer, recurrence equations and asymptotic programming, are studied. Applications to set operations, hashing, graph searching, transitive closure and partitioning are analyzed. Prerequisites: CS 500 and either 420 or graduate standing. A 34 821 0 0702
841. Advanced Computer Architecture. (3). A study of advanced computer architecture like parallel processing, stack architectures, computer performance evaluation and reliability of computing systems. Architectures of typical systems belonging to the IBM, Olivetti and Burroughs families of computers are studied. Prerequisite: CS 540. A 34 841 0 0702

842. Operating Systems Concepts. (3). A comprehensive treatment of the design of executive software for systems ranging from simplest single-programming to multiprocessor and network environments. Concepts of concurrent and parallel processes, related problems of intra- and inter-system communication, synchronization and interprocess communication and centralized versus distributed Study of the use of microcomputers in representative configurations is also included. 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 processing, multiprocessor communication and centralization versus distribution. General principles of resource management as related single-processor and multiprocessor environments are presented. Prerequisite: CS 540 or EE 694. A 34 843 0 0702

852. Principles of Data Base Design. (3). An advanced treatment of the principles of data base design. The following issues are addressed: logical design, including relational model, physical design including new technological advances in implementing very large data bases; security and integrity of data; and distributed data base networks. Prerequisite: CS 580. A 34 852 0 0702

872. Machine Learning and Discovery. (3). An advanced study of computer programs that learn, improve performance and make discoveries. Topics include objectives, methods and research paradigms for such systems; a survey of existing methods and applications; development of learning capabilities and theory formation; and use of analogy in learning. The course includes participation in a group project such as developing a computer learning system. Prerequisites: CS 776 or 779 or 214 and 547, or CS 214 and 773. A 34 872 0 0799

873. Computer Vision. (3). An introduction to computer vision, a rapidly growing subfield of artificial intelligence. The basic topic is the understanding or description of images by a computer. Important topics include: Fourier analysis, scene matching and understanding; texture, motion, shape recognition, relational image structure and human perception are covered. Prerequisite: CS 775 or instructor's consent. A 34 873 0 0799

574. Simulation and Modeling. (3). An up-to-date treatment of the important aspects of a simulation study, including data generation and testing, construction and verification of simulation models, simulation with high-level programming languages and techniques, and use with GFS. Prerequisites: CS 300 or AE 327, Math 344 and Stat. 571 or IE 354. A 34 874 0 0799

881. Software Specification and Design. (3). Course is a detailed presentation of the techniques and tools available for the specification of software requirements and their translation into a design. Topics include formal methods of software quality and structured design, object-oriented design and JSD. Prerequisite: CS 580. A 34 881 0 0705

882. Software Testing and Reliability. (3). A study of the ingredients of software quality assurance and their interactions, characteristics of software quality and methods of measurement, software reliability models and program testing and tools for software development and testing. Methods for proving program correctness and comparison. Prerequisite: CS 580. A 34 882 0 0705

886. Software Project Management. (3). Course presents the knowledge, techniques and tools necessary to manage the development of software products: Topics center on ensuring quality in the product, productivity in the team and reducing risk in the project life cycle. Course may not be repeated by students who have taken it under previous course numbers. Prerequisite: CS 580. A 34 886 0 0799

889. Topics in Software Engineering. (3). An in-depth study of one or more topics in software engineering, such as Configuration Management, Quality Assurance, Formal Specification, Object-oriented, Real-time Software Development. Actual topics vary with instructor's area of expertise. May be repeated for credit with different topics, but topics taken under previous course numbers may not be repeated. Prerequisite: CS 580. A 34 889 0 0799

890. Graduate Seminar. (2). A series of seminars on topics of current research interest in computer science. Participants are required to present one or two seminars on topics to be selected with the approval of their graduate advisers. Repeatable up to four credit hours. Graded S/U only. Prerequisite: departmental consent. A 34 890 0 0799

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 practical experiences are shared with other students and faculty. Graded S/U only. Prerequisite: departmental consent. A 34 891 2 0701

982. Thesis. (1-6). May be repeated for up to six hours of credit. Graded S/U only. Prerequisite: departmental consent. A 34 892 4 0701

983. Individual Reading. (1-5). Graded S/U only. Prerequisite: departmental consent. A 34 893 3 0701

986. Special Topics. (2-3). Topics of current interest to advanced students of computer science. Repeatable for credit with departmental consent. Prerequisite: departmental consent. A 34 896 4 0701

Economics

Major. The economics major in Fairmount College of Liberal Arts and Sciences consists of a minimum of 31 hours and a maximum of 41 hours. Econ. 101Q, 202Q, 231, 301, 302 and 340 are required along with Math. 111 and 144. Math. 112 may be accepted in lieu of Math. 111. Students with a plan to continue their study of economics in a PhD program should consult an adviser in the Department of Economics and, in most cases, include additional mathematics courses.

Minor. A minor in economics is available to any student whose major field or area of emphasis is outside of economics. A minor consists of 15 hours exclusive of Econ. 101Q, 202Q and 231, Econ. 201Q and 202Q, or the equivalents, must be included.

Teaching of Economics. Because Department of Education regulations governing the certification of secondary economics teachers are very specific and contain requirements beyond the economics major, students planning to be teachers of economics should contact a secondary social studies adviser in the College of Education for program planning.

Courses. Economics courses are listed in the Barton School of Business section of the Catalog.

English Language and Literature

English Language and Literature

Major. A major consists of 33 hours, three of which may, with departmental consent, be taken in a cognate subject (such as foreign literature, theatre, etc.) offered in a course by another department. The course work must be distributed as follows:

I. Basic Requirements (12 hours)
   Engl. 272Q*, 310*, 320Q* or 330Q; 274 or 315


*Prerequisites for other courses unless special permission is granted.

Minor. A minor consists of 15 hours and requires Engl. 310, 320Q or 330Q and at least six hours of upper-division work. Engl. 101 and 102 are not counted toward a minor. A number of minors have been specially designed to support majors in other fields; for further information, contact the chairperson of the English department.

Creative Writing

A student planning to major in creative writing must complete Engl. 161 and 102 and thereafter complete 33 hours of course work in English, including the following courses:

I. Basic Requirements (12 hours)
   Engl. 272Q*, 310*, 320Q* or 330Q*, 274 or 315
II. Major Requirements (3 hours)
Engl. 285Q (to be completed with a grade of B or better or receive departmental consent for further creative writing course work)

III. Skill Requirements (at least 12 hours) from Engl. 301, 303, 401, 403, 517, 518, 585, 586, 604, 605 (all of these courses may be repeated once for credit) or University Honors English courses (1-3)

IV. Electives (at least 6 hours)
Upper-division hours from any other area of emphasis within the department

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Composition

Noncredit Course

011. Syntax, Logic, and Organization. (3). Offered Cr/NCR only. Designed for students who wish to review the basic elements of written English, this course combines lecture, small-group discussion, and individual tutoring. For students whose ACT scores are 16 or below on Act English or when placement test scores do not qualify them for Engl. 101. Credit cannot be applied for graduation. A 14 011 0 1501

013. Basic Skills. (3). Offered Cr/NCR only. A required course for non-native-speaking students scoring below a certain level as determined by a departmental examination. Emphasizes reading, writing and thinking skills. Credit applied for graduation. Prerequisite: Engl. 013 or satisfactory score on placement test. A 14 015 0 1501

015. Reading Comprehension. (3). Offered Cr/NCR only. A composition course for non-native-speaking students, required for some students scoring below a certain level as determined by a departmental examination. Emphasizes reading comprehension skills. Prerequisite: Engl. 100. A 14 015 0 1502

Lower-Division Courses

100. English Composition. (3). A required composition course for non-native-speaking students scoring below a certain level as determined by a departmental examination. Emphasizes reading, writing and thinking skills. Credit applied for graduation. Prerequisite: Engl. 013 or satisfactory score on placement test. A 14 100 0 1501

101. College English I. (3). A course emphasizing critical reading, research and argumentation. Engl. 102 should be taken sequentially with Engl. 101 in the freshman year. Prerequisite: Engl. 101, with a grade of C or better. A 14 102 0 1501

102. College English II. (3). A course emphasizing critical reading, research and argumentation. Engl. 102 should be taken sequentially with Engl. 101 in the freshman year. Prerequisite: Engl. 101, with a grade of C or better. A 14 102 0 1501

103. Reading, Thinking, and Writing. (3). A third semester of English composition. Writing assignments are based on literature read during the semester. Reading material varies from year to year. Prerequisite: Engl. 102. A 14 103 0 1501

150. Workshop. (1-4). 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: Engl. 101 and 102 or instructor's consent. A 14 210 0 0601

Upper-Division Course

481. Cooperative Education. (1-3). This course is designed to provide the student with practical experience, under academic supervision, that complements and enhances the student's academic program. Individual programs must be formulated in consultation with appropriate faculty sponsors and approved by departmental consent. Offered Cr/NCR only. A 14 481 0 1507

Courses for Graduate/Undergraduate Credit

510. Peer Tutoring. (2). Explores strategies for using peer tutoring and collaborative learning to teach composition. Special emphasis is given to diagnosis and evaluation of writing abilities, conducting individual and group conferences, the basic elements of Standard Written English and theories of second and dialect acquisition. Concurrent enrollment in Engl. 511 recommended. This course or equivalent preparation is required of those intending to serve as tutors in the writing lab. Prerequisite: instructor's consent. A 14 510 0 1507

511. Tutorial Practicum, (1). Required of all students intending to serve as tutors in the writing lab, this course provides supervised tutoring experience. Prerequisite: previous or concurrent enrollment in Engl. 510. A 14 511 2 1507

680. Theory and Practice in Composition. (3). An 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 practising teachers and may not be taken for credit by students with credit in Engl. 786. A 14 680 0 1501

685Q. Advanced Composition. (3). This course explores the relationships among current issues, problem-solving, and communication. The first objective of the course is to engage students in interdisciplinary inquiry into some aspect of social policy, inquiry which asks students to apply the analytical approaches of their major fields to current issues of broad, general interest. The second objective of the course is to develop students' abilities to communicate their knowledge and assumptions about this issue to a variety of audiences and for a variety of purposes. Prerequisites: Engl. 101 and 102 and upper-division standing. A 14 685Q 0 1501

750. Advanced Theory and Practice in Composition. (3). Designed for teaching assistants in English. Review of new theories of rhetoric, recent research in composition and new promising developments in composition programs in schools and colleges. Students are given practice in advanced writing problems, situations and techniques and may propose projects for further special study. A 14 750 0 1501

Creative Writing

Lower-Division Course

285Q. Introduction to Creative Writing. (3). An introductory course for students interested in the techniques and practice of imaginative writing in its varied forms. This course may be used to fulfill the general education requirement only as an elective (studio and performance). Prerequisites: Engl. 101 and 102. A 14 285Q 0 1507

Upper-Division Courses

301. Creative Writing: Prose Fiction. (3). Repeatable for credit. Prerequisite: Engl. 285Q with a grade of B or better. A 14 301 0 1507

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*Prerequisites for all other English courses unless special permission is granted.

Minor. A minor with a creative writing sequence is available and consists of 15 hours of course work in creative writing (Engl. 285Q plus 12 hours of skill courses just listed).

Teaching

Students must file a declaration of English teaching major with an assigned English-education adviser at the time they apply to the teacher education program. A 2.50 grade point average in English is required of all majors applying for admission to the professional semester of student teaching in secondary school English.

Major for Students Planning to Teach English in Secondary Schools. The teaching major in either Fairmount College or the College of Education is 51 hours distributed as follows:

I. Language (6 hours)
   Engl. 315 and 665, 667 or 274

II. Composition (6 hours)
   Engl. 660 and 210, 685Q or any course in the creative writing sequence

III. Literature (27 hours)
   A. Foundations: English 272Q*, 310*, 320Q* or 330Q* and 340Q
   B. British and American literary history; Engl. 503, 504 and one course in British literature
   C. Nonwestern and/or minority literature; Engl. 342, 365 or 672
   D. Literature for adolescents: IS 616

IV. Other (6 hours)
   A. English 510-511
   B. Communication 650
   C. Electives (6 hours)

Six hours in English, in certifiable minor or in approved area of competency to be selected in consultation with an English-education adviser

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303. Creative Writing: Poetry. (3). Repeatable for credit. Prerequisite: Engl. 285Q with a grade of B or better. A 14 303 9 1507

401. Advanced Creative Writing: Prose Fiction. (3). An advanced course for students developing the skilled practice of writing, rewriting, revising and producing prose fiction. Prerequisites: Engl. 285Q and at least three hours of Engl. 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: Engl. 285Q and at least three hours of Engl. 303. A 14 403 0 1507

Courses for Graduate/Undergraduate Credit

517-518. Playwriting I and II. (3; 3). Cross-listed as Thea. 516 and 517. Not repeatable for credit. A 14 517 0 1507; A 14 518 0 1507

585. Writer’s Tutorial: Prose Fiction. (3). Tutorial work in creative writing in prose fiction with visiting writer. Repeatable for credit. Prerequisite: consent of creative writing director. A 14 585 0 1507

586. Writer’s Tutorial: Poetry. (3). Tutorial work in creative writing in poetry with visiting writer. Repeatable for credit. Prerequisite: consent of creative writing director. A 14 586 0 1507

604. Writing Seminar: Fiction. (3). An advanced course designed primarily for the nontraditional student, both graduate and undergraduate, who desires intensive experience in the conceptualization and writing of prose fiction. Not credited toward the MFA degree. Prerequisites: six hours of undergraduate/graduate creative writing or instructor consent based on submitted manuscript. Departmental consent required for undergraduate enrollment. A 14 604 9 1507

605. Writing Seminar: Poetry. (3). An advanced course designed primarily for the nontraditional student, both graduate and undergraduate, who desires intensive experience in the conceptualization and writing of poetry. Not credited toward the MFA degree. Prerequisites: six hours of undergraduate/graduate creative writing or instructor consent based on submitted manuscript. Departmental consent required for undergraduate enrollment. A 14 605 9 1507

Courses for Graduate Students Only

681. Writer’s Tutorial: Poetry. (3). SU grade only. Tutorial work in creative writing in poetry with visiting writer. Prerequisite: consent of creative writing director. A 14 681 9 1507

811. Writer’s Tutorial: Poetry. (3). SU grade only. Tutorial work in creative writing in poetry with visiting writer. Prerequisite: consent of creative writing director. A 14 811 9 1507

822G. Themes in American Literature. (3). Instruction in perceptive reading through the study of representative works in American fiction, poetry, drama and the essay. Emphasis is on understanding and appreciation of central themes and dominant ideas. Multimedia presentations, which are closely correlated to the representative works being studied, amplify the scope and range of literature per se. Media include films, readings and recordings. A 14 223G 0 1502

252Q. Modern American Writers. (3). A survey of important works by major American writers since World War I. A 14 252Q 0 1502

254Q. Modern British Literature. (3). A survey of important works by major writers of the British Isles, including Ireland, in the 20th century. A 14 254Q 0 1502

262Q. American Writers of the 19th Century. (3). A course devoted to the study of the major works in the different genres by important American writers of the 19th century as they relate to the growth of a national literature. A 14 262Q 0 1502

272Q. Origins of the Western Literary Tradition. (3). A study of the literary forms that first appeared in classical and Biblical literature and reappear in the English literary tradition. Readings from mythology, the classics and selected books of the Bible. A 14 272Q 0 1502

274. The Language of Literature. (3). An examination of the principles and problems of literary interpretation that are especially related to language structure. A 14 274 0 1502

275Q. Studies in Popular Literature. (3). Cross-listed as Am. St. 275Q. A course devoted to study of various forms of popular literature (e.g., revolutionary literature, science fiction, western fiction, detective novel) with an emphasis both on the literary merits of the work and the way it reflects popular tastes and values. Repeatable for credit with change of content. A 14 275Q 0 1503

290Q. The Bible as Literature. (3). The Bible is studied as a literary artifact through extensive readings in both Old and New Testaments. Literary techniques are pointed out and their meaning for the manner of composition of the Bible is discussed. A 14 290Q 0 1501

Upper-Division Courses

207G. Narrative in Literature and Film. (3). 2R; 2L. A comparative aesthetic analysis of the art of narration in literature and especially in film. A 14 307G 0 1501

310. The Nature of Poetry. (3). Designed to acquaint the student with the variety of poetic forms and techniques. Contributions of cultural and literary history are analyzed as background to the works under study, but the course primarily emphasizes the characteristics of poetry as a literary communication. A 14 310 0 1502

320Q. The Nature of Drama. (3). A course designed to acquaint the student with drama as a form of literature in performance. Introduction to the student to a variety of plays drawn from different cultures and historical periods, the course focuses primarily on the characteristics of drama, giving some attention to dramatic history and theory. A 14 320Q 0 1502

330Q. The Nature of Fiction. (3). A course designed to acquaint the student with narrative fiction in a variety of forms: the short story,
short novel and novel in covering works of fiction drawn from different cultures and historical periods, the course focuses primarily on the characteristics of fiction, giving some attention to historical development and to theories of fiction. A 14 3300 C 1502

340Q. Major Plays of Shakespeare. (3). Designed for students who wish to study the best work of Shakespeare's career in one semester. Students who take this course may take Engl. 515 once for credit. A 14 3400 C 1502

342. American Folklore. (3). Cross-listed as Am. St. 342. Survey of the types and functions of unwritten traditional materials in the United States, including beliefs, tales, jokes, folk music, customs and crafts, including some ethnic varieties: the unwritten materials that form the uniqueness of American culture. A 14 342 C 1502

345. Studies in Comparative Literature. (3). Study of representative works in the western and ancient Near Eastern literary traditions with emphasis on the contrastive relations between themes, types and structures. Readings may be drawn from one or several periods and may include works of fiction, drama, poetry, epic, romance, satire and other types. A 14 345 C 1502

365. Afro-American Literature. (3). A survey course designed to acquaint the student with the most significant African-American writers from the 1700s to the present. Lectures cover early slave narratives and early slave poetry to the Harlem Renaissance; student reading, discussion and writing begin with the Harlem Renaissance and end with the 1970s. Prerequisites: Eng. 101 and 102. A 14 365 C 1502

400G. The Literary Imagination: Epic, Romance, Tragedy, Comedy. (3). A course designed to acquaint the general student with the major modes that have shaped the Western literary tradition. It focuses on the tendency of the imagination to construct different kinds of fictions that satisfy the human demand for various forms of literary pleasure—the pleasure that derives from the experience of love and war on a heroic scale (epic and romance), the pain and suffering of man 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 C 1502

450. Independent Reading. (1-3). Designed for majors and non-majors 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 C 1502

Courses for Graduate/Undergraduate Credit

503. Studies in American Literature I. (3). A course in the major fiction, poetry and nonfiction prose of the classic American period. Discusses many of the styles and the development of the novel and romance, the transcentndental period and the rise of the short story. Literature of the United States and regional literatures. A 14 503 C 1502

504. Studies in American Literature II. (3). Fiction, poetry and drama from the late 19th century to after World War II. Readings may also include literary criticism and other types of nonfiction prose. Discussions cover themes, topics and literary forms inspired by the social and cultural movements and events of the first half of the 20th century. A 14 504 C 1502

512. Studies in Fiction. (3). Subjects to be announced each semester. Repeatable for credit. A 14 512 C 1502

513. Studies in Poetry. (3). Subjects to be announced each semester. Repeatable for credit. A 14 513 C 1502

514. Studies in Drama. (3). Subjects to be announced each semester. Repeatable for credit. A 14 514 C 1502

515. Studies in Shakespeare. (3). Subjects to be announced each semester. Repeatable for credit, except by students who take Engli. 340Q. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 515 C 1502

521. Readings in Medieval Literature. (3). English and Continental literature, 12th to 15th century. Chaucer, Malory, the Pearl Poet, medieval lyric, drama, epic, romance and saga. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 521 C 1502

522. Readings in Renaissance Literature. (3). Sidney, Spenser, Shakespeare (poetry), Donne, Jonson, Milton and their contemporaries. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 522 C 1502

524. Readings in Restoration and 18th Century Literature. (3). Swift, Pope, Johnson and their contemporaries. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 524 C 1502

526. Readings in Romantic Literature. (3). Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 526 C 1502

527. Readings in Victorian Literature. (3). Writers from Carlyle to Yeats studied in relation to political events and the social, scientific and religious phases of the age. Prerequisites: junior standing and one college literature course, or instructor's consent. A 14 527 C 1502

532. Studies in Modern British Literature (to 1950). (3). English and Irish literature of the first half of the 20th century. Subjects to be announced each semester. Repeatable for credit. A 14 532 C 1502

533. Studies in Contemporary Literature. (3). Modern literature, primarily British and American, since 1950. Subjects to be announced each semester. Repeatable for credit. A 14 533 C 1502

535. Images of Women in Literature. (3). Cross-listed as Wom. S. 535. Women characters as stereotypes, archetypes and fully developed human beings in the works of various authors. A 14 535 C 1502

536. Writing by Women. (3). Cross-listed as Wom. S. 536Q. The work of major women writers, both British and American, in poetry and prose. A 14 536 C 1502

580. Special Studies. (1-3). Topic selected and announced by the individual instructor. Repeatable for credit. Prerequisite: departmental consent. A 14 580 C 1502

618. Old English. (3). Cross-listed as Ling. 610. A 14 610 C 1502

750. Workshop. (2-4). Repeatable for credit. A 14 750 C 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 the development of research skills and techniques, both technical and historical; (3) various approaches to the study of literature, such as intrinsic analysis of a literary work, the relationships of biography to literary study and the relevance of other disciplines, such as psychology, to literature; and (4) the writing of interpretative and research essays. Throughout the semester a balance between criticism and research is maintained. A 14 800 C 1502

817. Graduate Readings in 20th Century British Literature. (3). Yeats, Joyce, Lawrence, Auden, Spender and their contemporaries. A 14 817 C 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 C 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 C 1502

823. Graduate Readings in American Literature III. (3). From 1920 to 1970, including Eliot, Stevens, Hemingway, Faulkner and their contemporaries. A 14 823 C 1502

825. Theories of Rhetoric: Classical. (3). Cross-listed as Comm. 830. An intensive study of the rhetorical theories of classical writers from 466 B.C. to the decline of Roman oratory. Principal emphasis is on Isocrates, Plato, Aristotle, Quintilian, Cicero and Longinus. A 14 825 C 1502

826. Theories of Rhetoric: Renaissance to Early Modern. (3). Cross-listed as Comm. 831. A study of the emerging patterns of rhetoric from the Second Sophistic to modern times. Analysis is made of the rhetorical systems associated with such figures as Augustine, Fenelon, Bulver, Sheridan, Stress, John Quincy Adams, Blair, Campbell and Whately. A 14 826 C 1502

830. Graduate Studies in Drama. (3). Selected topics in the history and nature of dramatic literature. A 14 830 C 1502

832. Graduate Studies in Fiction. (3). Selected topics in the development of the form and content of prose fiction. A 14 832 C 1502

834. Graduate Studies in Poetry. (3). Selected topics in forms, techniques and history of poetry. A 14 834 C 1502

840. Graduate Studies in Criticism. (3). Selected topics in the theory and practice for literary criticism. A 14 840 C 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 C 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 de-
departmental consent. Prerequisite: departmental consent. A 14 855 3 1502

860. Graduate Seminar In Special Topics. (3). Intensive study of selected texts, writers or literary problems. Seminar discussions, reports and research projects. Repeatable for credit with departmental consent. A 14 860 9 1502

870. Master's Essay. (2-3). A 14 870 4 1502

875. MFA Essay. (3-6). A 14 875 4 1502

Film Studies
The film studies minor at The Wichita State University is designed to provide students interested in film and the visual media with a focused sense of the possibilities, limitations and actual accomplishments of the visual media as they have, in fact, developed. The minor also offers opportunities to study film as an art form and to gain experience in media production. The film studies minor consists of 18 semester hours from the courses listed below, selected with the approval of the coordinator of film studies.

The Wichita State University does not at this time offer a film studies major. However, the minor will prove useful to students majoring in literature, journalism and speech, and will also appeal to those in fields where some knowledge of mass communication as a cultural phenomenon is desirable, including sociology, history, anthropology, psychology, education, administration and American studies.

Students seeking more information about the film studies minor should contact Dr. James Erickson in the Department of English.

Courses approved for the film studies minor are Hist. 106Q, The Way It Was: Western Civilization in Film; Comm. 229Q, Introduction to Film Studies; GD 231, Basic Photography (Motion Picture); English 307Q, Narrative in Literature and Film; Comm. 320, Cinematography; GD 430, Television for Graphic Design; Comm. 304, Television Production and Direction; and Comm. 604, Advanced Television Production and Direction.

French (See Modern and Classical Languages and Literatures)

Geology
The Bachelor of Science (BS) degree in geology provides training for professional work in industry or government as well as for graduate study. The Bachelor of Arts (BA) degree in geology provides training for graduate study or teacher preparation background. A number of assistantships, fellowships and scholarships are available. Contact the Department of Geology for further information.

The geology program emphasizes field and laboratory skills in sedimentology/stratigraphy and related fields. Particular attention is directed to solving problems of mineral exploration, mineral-resource evaluation and depletion and the environment.

Students who expect to achieve either the BS or BA in geology within a minimum period of time should have completed geometry, trigonometry and two years of algebra in high school. Chemistry and physics also are recommended in high school.

Geology Major. A major with the BA requires a minimum of 33 hours in geology, including the following:
1. Geol. 111Q, General Geology
2. Geol. 312, Historical Geology: 320, Mineralogy; and 324, Petrology
3. Geol. 540, Field Mapping; 544, Structural Geology; 552, Physical Stratigraphy; and 570, Biogeology
4. Nine additional hours of upper-division geology electives or other sciences with prior written approval of the department.

Required supporting sciences for the BA are:
1. Any approved course in biological sciences
2. Any one of the following groups
   a. Chem. 111Q or 123Q, and Phys. 213Q and 214Q (or 313Q, 315Q and 314Q, 316Q)
   b. Chem. 111Q and 112Q (or 123Q and 124Q) and Phys. 213Q or 313Q, 315Q
   c. Math. 242Q, 243 and Stat. 370
3. CS 200Q and 201 (or an approved substitute).

A major with the BS requires a minimum of 45 hours in geology, including the following:
1. Geol. 111Q, General Geology
2. Geol. 312, Historical Geology: 320, Mineralogy; and 324, Petrology
3. Geol. 526, Sedimentary Geology: 540, Field Mapping; 544, Structural Geology; 552, Physical Stratigraphy; 560, Geomorphology; 570, Biogeology; and 581, Numerical Geology
4. Geol. 640, Field Geology
5. An applied geology course that includes either Geol. 620, Geochemistry; 650, Geohydrology; 660, Geophysics; 680, Economic Geology; or 682, Petroleum Geology
6. One additional course from 500-level courses and above.

Required supporting sciences for the BS degree are:
1. All those courses listed for the BA degree
2. Chem. 112Q (or 124Q) or Physics 214Q (or 314Q, 316Q), to complete a one-year sequence each in chemistry and physics

BA candidates must meet the language requirements of Fairmont College of Liberal Arts and Sciences. BS candidates must elect one of the following options: (a) ten hours of modern language, (b) an additional nine hours of computer science/mathematics or (c) an additional nine hours of statistics/computer science. Students electing options (b) or (c) must get prior written approval from the department chairperson for an approved program of courses. Election of one of the two options for language requirements will not alter existing departmental mathematics requirements.

Geology Minor. A minor in geology consists of at least 15 hours of geology including Geol. 111Q, General Geology.

Geography Minor. A minor in geography consists of at least 15 hours including Geog. 125Q or 201 or the equivalent.

It is suggested that students minorning in geology or geography consult with the department in selecting courses most appropriate to their major field of study.

Nonmajor and Nonminor Students. A nonmajor or nonminor student who wishes to achieve the broadest terminal background knowledge of geology is advised to take Geol. 111Q, General Geology, and 312, Historical Geology. Similar advice is offered to the potential major whose decision to elect geology is pending.

Geology

Lower-Division Courses
101Q. Science and Environment. (3). Study of the physical environment and environmental education—the educational process concerned with man's relationship with his natural and manmade surroundings, including the relation of population, pollution, energy, resource depletion and allocation, conservation, transportation, technology, economic impact and urban and rural planning to the total human environment. A 16 101Q 0 1901

111Q. General Geology. (4). 3R; 2L Lab fee. An overview of the earth; the concepts of its origin, composition, materials, structure, landforms and history; and natural processes operating to create man's physical environment. Field trips into the earth laboratory may be required. A 16 111Q 1 1914

150. Workshop. (1-4). Short-term courses with special focus on geological problems. Prerequisite: instructor's consent. A 16 150 2 1914
Upper-Division Courses

300G. Energy, Resources and Environment. (3). An examination of man's effects on his environment and man's dependence on earth resources in meeting his needs. The significance of availability and location of energy and mineral resources will be examined relative to the protection and improvement of man's environment and man's desires for a high standard of living. Some emphasis on urban geography. A 16 300G 0 1914

302Q. Earth and Space Sciences. (3). 2L. Lab fee. A general survey of man's physical environment, including elements of geology, geography, meteorology, climatology, oceanography and astronomy. Field trips may be required. Not open to students who have taken Geol. 111Q or Geog. 201. A 16 302Q 1 1914

310. Oceanography. (3). Geologic origin of ocean basins and sea water; dynamics of waves, tides and currents; physical and chemical properties of sea water; diversity of life in the oceans; economic potential, law of the sea; significance of marine products on the marine environment. A 16 310 0 1914

312. Historical Geology. (3). 2R; 3L. Lab fee. A systematic review of earth history and its preservation in the rock record using field evidence for sequences of biological and tectonic events. Field trips may be included. The course is identical on the marine environment. Field trips may be required. Prerequisite: Geol. 111Q or 302Q or equivalent. A 16 312 1 1914

320. Mineralogy. (3). 1R; 6L. Lab fee. Elementary geometric stereographic study of the crystallography and composition of minerals. Laboratory emphasis on the identification of rocks and minerals with laboratory emphasis on recognition of their typical forms, occurrences, associations and identification. Field trips may be required. Prerequisite: Geol. 111Q. A 16 320 1 1914

324. Petrology. (3). 1R; 6L. Lab fee. The origin, distribution, occurrence, description and classifications of igneous, metamorphic and sedimentary rocks with laboratory emphasis on the use of the petrographic microscope in the quantification of the major rock-forming minerals of the earth's crust and their significance in the identification and classification. Field trips may be required. Prerequisite: Geol. 320. A 16 324 1 1914

410. Honors in Geology. (3). Senior thesis for departmental honors. The independent study project on a topic of the student's choice in original research or creative work. Repeatable to a maximum of six credit hours. Prerequisite: acceptance by the Emory Lindquist Honors Program and departmental approval. A 16 410 4 1914

430. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area of geological significance. The course is given upon demand and may be repeated for credit when course locality and content differ. Where appropriate, travel, lodging and board costs are charged. A 16 430 2 1914

Courses for Graduate/Undergraduate Credit

501. Raw Materials of Antiquity. (3). 2R. 2L. Lab fee. Nature of rocks, minerals and metallic ores used in prehistory and ancient times. Also included are weathering, sedimentation, and soil-forming processes; elements of stratigraphy; geologic history of the Pleistocene and Recent Epochs; relative and absolute age dating; mineralogy of clays and ceramics, and their origins and technological processes of antiquity. Prerequisite: Anthr. 501 or equivalent or instructor's consent. A 16 501 1 1914

520. Optical Mineralogy. (3). 1R; 6L. Lab fee. Optical properties of amorphous and crystalline materials in polarized light. Use of thin section, microscope, immersion oil methods are introduced. Prerequisites: Math. 112 or 123 and Geol. 310. A 16 520 1 1914

526. Sedimentary Geology. (3). 2R; 3L. Lab fee. Origin, classification, primary structures and secondary structural features of sedimentary rocks and evidence for sequences of biological and tectonic events. Field trips may be required. Prerequisite: Geol. 320. A 16 526 1 1914

540. Field Mapping Methods. (3). 9L. Lab fee. Field mapping methods with special reference to use of level, compass, alidade and airphotos. Field trips are required. Prerequisite: Geol. 201 or Geol. 111Q. A 16 540 1 1914

544. Structural Geology. (3). 2R; 3L. Lab fee. Stress-strain theory and mechanics of rock deformation, description and 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 may be required. Prerequisites: Math. 112 or 123 and Geol. 552 (or taken concurrently) A 16 544 1 1914

552. Physical Stratigraphy. (3). 2R; 3L. Lab fee. Description, classification, correlation and relationship to rock units and the 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. Lab fee. Identification and interpretation of the genesis of landforms and a critical examination of processes producing the landforms, including elements of quantitative geomorphology. Field trips are required at the option of the instructor. Prerequisite: Geol. 111Q. A 16 560 1 1914

562. Regional Geology of the United States. (3). A detailed regional survey of the general geology, geomorphology, stratigraphy and geologic history of the United States. Field trips are required at the option of the instructor. Prerequisite: Geol. 560 or instructor's consent. A 16 562 1 1914

564. Map and Airphoto Interpretation. (3). 2R; 3L. Lab fee. Elements of map and aerial photograph composition; interpretation and application of maps and photos in geology, geography, urban planning, land-use inventories and engineering works. Remote-sensing technologies are also included. Field trips may be required at the option of the instructor. Prerequisite: Geol. 111Q, Geog. 201 or equivalent. A 16 564 1 1914

570. Biogeology. (3). 2R; 3L. Lab fee. Systematic survey of major fossil biogeological materials, analysis of the origin and evolution of life and paleoecological interpretation of ancient environments and climates. Handlense and binocular microscopic examination is made of major fossil biogeological materials. Application of analyzed fossil data to the solution of problems in biogeochronology, paleoecology, paleoecology and paleogeography. Field trips are required at the option of the instructor. Prerequisite: Geol. 320 or 552. A 16 570 1 1914

574. Special Studies in Biogeology. (3). 2L. Lab fee. A systematic study of selected areas of biogeology and paleontology. Course content differs upon demand, to provide in-depth analysis in the fields of: (a) vertebrate paleontology, (b) vertebrate paleoecology, (c) invertebrate paleontology, (e) paleoecology. Appropriate laboratory instruction is given in the systems, taxonomy and paleobiogeological relationships with emphasis on practical techniques employed. Field trips may be required. Repeatable for credit to cover all five areas listed. A 16 574 1 1914

581. Numerical Geology. (3). 2R; 3L. Treatment of numerical data in geology, including univariate and bivariate statistics and elementary programming in FORTRAN. A study of geologic and palynologic techniques used to analyze them as well as case histories of applications are emphasized. Prerequisites: Geol. 111Q, Stat. 370, CS 200Q or 201 or permission of instructor. A 16 581 1 1914

630. Field Studies in Geology. (2-6). Off-campus, systematic field study in a selected area of geological significance. The course is given upon demand and may be repeated for credit when course locality and content differ. Where appropriate, travel, lodging and board costs are charged. A 16 630 2 1914

640. Field Geology. (6). Field investigation of sedimentary, igneous and metamorphic rock units and their structures. The application of mapping methods in solving geologic problems is included. This course is held at an off-campus field camp for five weeks (including weekends). Preparation of geologic columns, sections, maps and an accompanying professionally rendered report are due on campus during the sixth week. Prerequisite: 12 credits of advanced geology, preferably including a field-mapping methods course or instructor's consent with Kan­sas State University. A 16 640 1 1914

650. Geohydrology. (3). 2R; 3L. Lab fee. The hydrologic cycle, physical and chemical properties of water; fluid flow through permeable media; exploration for and evaluation of groundwater; water quality and pollution; and water law. Prerequisite: Geol. 560 and Math 243 or instructor's consent. A 16 650 1 1914

657. Earth Science Instructional Methods. (3). Practice in teaching an introductory course in the earth sciences. Developing and presenting the latest scientific laboratory techniques and interpreting field trips effectively, their educational merit. May be taken more than once if content and objectives differ. Prerequisite: senior standing and permission of the department chairperson. A 16 657 0 1914


680. Economic Geology. (3). 2R; 3L. Lab fee. Occurrence of metallic and nonmetallic economic mineral deposits and the physicochemical principles governing their origin. In­cluded also are a laboratory examination of ores and industrial minerals and elements of mineral beneficiation. Field trips may be required. Prerequisite: Geol. 324. A 16 680 1 1914
682. Petroleum Geology. (3). 2R; 3L. Lab fee. The origin, migration and accumulation of oil and gas, the fundamentals of petroleum geology as the distribution and signficant features of modern fields, and energy alternatives and impacts. Field trips may be required. Prerequisite: Geol. 544. A 16 682 1 1914

684. Subsurface Geology. (3). 2R; 3L. Lab fee. All subsurface methods, including laboratory, logging, testing and treatment, valuation and mapping methods. Field trips are required at the option of the instructor. Prerequisites: Geol. 582 and Phys. 214Q or equivalent. A 16 684 1 1914

690. Special Studies in Geology. (1-3). Systematic study in selected areas of geology. Course content differs and is repeatable for credit. Laboratory work or field trips may be required at the option of the instructor. Offered on demand. Prerequisite: instructor's consent. A 16 690 2 1914

695. Special Studies in Geography. (1-3). Independent study on special problems in the field of geography: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geography, (g) sedimentation, (h) stratigraphy, (i) geophysics, (j) petroleum. Independent study in selected areas of geology with a written final report required. Prerequisite: consent of sponsoring faculty. A 16 695 2 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

720. Geochemistry. (3). The chemistry of earth materials and the important geochemical processes and cycles operating on and within the earth through time. Prerequisites: Geol. 324 and Chem. 112Q. A 16 720 0 2206

750. Workshop in Geology. (1-3). Short-term courses with special focus on geological problems. Prerequisites: graduate standing and/or instructor's consent. A 16 750 2 1914

Courses for Graduate Students Only

800. Research in Geology. (3). 9L. Lab fee. Research in special areas of geology: (a) general, (b) mineralogy, (c) petrology, (d) structural, (e) paleontology, (f) economic geology, (g) sedimentation, (h) stratigraphy, (i) geophysics and (j) petroleum. A written final report is required. Prerequisite: consent of sponsoring faculty. A 16 800 4 1914

808. History of Geology. (3). Selected events and personalities in geology that have led to our present understanding of geology's place in science. Prerequisite: permission of instructor. A 16 808 9 1914

810. Advanced Graduate Studies in Geology. (1-6). Systematic study in a selected topic in advanced geology. The course is given upon demand and may be repeated for credit when course content differs. Field trips may be required. Prerequisites: graduate standing, consent of instructor and two years of professional postgraduate practice in geology. A 16 810 9 1914

823. Igneous and Metamorphic Petrology. (3). 1R; 6L. Lab fee. Mineral 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 may be required. Prerequisite: Geol. 520. A 16 823 1 1914

826. Sedimentary Petrology. (3). 2R; 3L. Lab fee. Detailed study of sedimentary rocks and their origins. Determinations of mineral composition, textures, structures, fabrics and petrogenetic relationships are facilitated by the use of thin sections, peels and geochemical analyses. Field trips may be required. Prerequisite: Geol. 582. 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 are charged. Prerequisites: summer field geology (or equivalent) and instructor's consent. A 16 830 2 1914

840. Geotectonics. (3). Physical and geologic processes and cycles operating on and within the earth through time. Prerequisites: summer field geology (or equivalent) and instructor's consent. A 16 840 2 1914

852. Field Stratigraphy. (3). 2R; 3L. Lab fee. Advanced concepts and principles of stratigraphic analysis and interpretation with emphasis on original sources and current research investigations. Field problem and field trips are required. Prerequisite: Geol. 544 and 552 or instructor's consent. A 16 852 1 1914

870. Advanced Biogeography. (3). 3R; 3L. Lab fee. Paleoclimatological reconstruction of ancient plant/animal communities and environments with emphasis on community structure, biostratigraphy, synthesis of total raw data and problem solving. Field trips may be required. Prerequisite: course in biogeology or equivalent. A 16 870 1 1918


Geography

Only courses 201 and 235 are intended as physical science courses. All other geography courses are intended as social science offerings.

Lower-Division Courses

1250. Principles of Human Geography. (3). An introductory course that examines the development of human and cultural landscapes. A 16 1250 0 2206

1500. Workshop in Geography. (1-2). Short-term courses with special focus on geographical problems. Prerequisite instructor's consent. A 16 1500 2 2206

201. Physical Geography. (3). 2R; 3L. Lab fee. 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

2100. 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 2100 0 2206

235. Meteorology. (3). 2R; 3L. Lab fee. An introductory study of the atmosphere and its properties and the various phenomena of weather. A brief survey of important principles of physical, dynamic, synoptic and applied 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

262Q. Cultural Geography. (3). An introduction to cultural geography emphasizing man's geographical distributions, the spatial aspects of his cultural activities, the sources and techniques of his livelihood and the relationships to his environment. A 16 262Q 0 2206

Upper-Division Course

320. Field Studies in Geography. (1-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs are charged. A 16 320 2 2206

Courses for Graduate/Undergraduate Credit

510. World Geography. (3). A general survey of world geography, including an analysis of the physical, political, economic, historical and human geography of the major world regions. A 16 510 0 2206

520. Geography of the United States and Canada. (3). Physical, political, economic, historical and human geography of the United States and Canada. A 16 520 0 2206

530. Geography of Latin America. (3). Physical, political, economic, historical and human geography of Latin America. A 16 530 0 2206

542. Geography of Europe. (3). Physical, political, economic, historical and human geography of Europe. A 16 542 0 2206

580. Economic Geography. (3). A geographical analysis of the distribution and utilization of basic world resources. A 16 580 0 2206

620. Field Studies in Geography. (2-6). Off-campus, systematic field study in a selected area of geographic significance. The course is given upon demand and may be repeated for credit when the course locality and content differ. Where appropriate, travel, lodging and board costs are charged. A 16 620 2 2206

630. Geography of Mexico. (3). Physical, human and cultural geography of Mexico, including important archaeological and historical settings. Relations of sources to arts, crafts, industry and architecture. A 16 630 0 2206

670. Urban Geography. (3). 2R; 3L. Lab fee. Geography of cities; the origin, growth, functions, characteristics and environmental problems of urban areas; structure and dynamic elements of intraurban space; land-use analysis and approaches to urban planning; and problems of urban ecology. A 16 670 1 2214

695. Special Studies in Geography. (1-3). 3R or 2R; 3L. Lab fee. (Lab is included when appropriate.) Systematic study in a selected area of topical interest in geography. The course is given on demand and is repeatable for credit when course content differs. Field
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 location and content differ. Where appropriate, travel, lodging and board costs are charged. Prerequisite: Instructor’s consent. A 16 860 2 2206

History

The major in history provides a program that is varied and flexible enough to answer the needs for an integrated, liberal education. The program has five areas of concentration: the ancient and medieval world, modern Europe, England, the United States and general history.

Courses also are offered in such areas as urban history, military history, women in history, popular culture, family history and the Holocaust.

The history major, often in combination with courses in other disciplines, touches many fields of endeavor, providing flexibility for entrance into a wide variety of career opportunities, including law, professional writing, teaching, communications, business, government and public affairs.

Major. A major in history requires a minimum of 29 hours. History majors must specialize in one of the following areas:

1. Ancient and medieval history—requires Hist. 101G plus one additional lower-division course.
2. Modern European history—requires Hist. 102G plus one additional lower-division course.
3. English history—requires Hist. 113 or 114 plus one additional lower-division course.
4. U.S. history—requires Hist. 131Q or 132Q plus one additional lower-division course.
5. General history—requires two lower-division courses.

Nine upper-division hours are to be selected from courses in each appropriate area and must be chosen in consultation with an adviser. All history majors must take Hist. 300 and 698. In addition, sufficient hours need to be elected to bring the total to 29. At least six of these hours must be upper-division hours that are not in the area of specialization. Hist. 108G and 330G may not be used toward the history major.

Minor. A minor in history consists of 15 hours, including a maximum of two lower-division courses and at least three upper-division courses.

Teaching of History. Because Kansas Department of Education regulations governing the certification of secondary history teachers are very specific, students planning to be teachers of history should contact a secondary social studies adviser in the College of Education for program planning beyond the requirements of the history major.

Lower-Division Courses

100G. The Human Adventure: World Civilization Since 1500. (3). An introductory history of the human experience during the past five centuries, with attention given to the major social, cultural, economic and political traditions of Asia, Africa and the Americas as well as Europe. A 18 100G 0 2205

101G & 102G. History of Western Civilization. (4 & 4). 101G: prehistory to 1648. 102G: 1648 to the present. A 18 101G 0 2205 & A 18 102G 0 2205

106Q. The Way It Was: Western Civilization in Film. (2). Selected topics in the history of Western civilization on topic(s) dealt with in films from the 17th century to the present. Not open to history majors or to those with credit in Hist. 101G and 102G. A 18 106Q 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, Mocheno-Daro, Khmers, 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 national institutions. 114: from the beginning of the Stuart period to the present. A 18 113 0 2205 & A 18 114 0 2205

131Q & 132Q. The History of the United States. (4 & 4). 131Q: survey from the colonial period through the Civil War. 132Q: survey from Reconstruction to the present. A 18 131Q 0 2205 & A 18 132Q 0 2205

150. Workshop in History. (2-3). A 18 150 2 2205

213. American Popular Culture. (3). Cross-listed as Am. St. 213. An examination of popular culture from colonial times to the present with special emphasis on mass 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 tradition suggests. Surveys include magazines, popular music, cinema, pulp magazine literature, comics, television, cult heroes, stereotyping of public issues, family life, fashion and familiar items of household technology are treated seriously rather than as sideshows to the more serious business of politics and finance. A 18 213 0 2205

220. Media Courses in History. (2-3). Courses created or coordinated by the Department of History which are offered through various media: radio, television and newspaper. Areas of historical emphasis vary from course to course. A 18 220 0 2205

222. East Asia. (3). Cross-listed as Pol. S. 222, LASI 222Q and Hul. 222Q. A survey of basic topics on China, Korea and Japan, including history, culture, society, philosophy, religion, politics and economics. This course is taught by a team of instructors from several departments. A 18 222 0 2205

225. Your Family in History. (3). A course designed to bridge the gap between history and genealogy through demonstrations of the kinds of research techniques available to those who are interested in creating a family history. Students learn the skills and understanding of the techniques in a family history project. A 18 225 0 2205

Upper-Division Courses

300. Introduction to Historical Research and Writing. (3). Basic instruction in research methodology, composition and criticism. This course is required of history majors. A 18 300 0 2205

310. Special Topics in History. (2-3). Repeatable twice for credit. Prerequisite: departmental consent. A 18 310 3 2205

315. American Business: The First Century. (3). An examination of major topics in the history of business from the Constitution and extending to 1900, the course examines innovation in management and the contributions of specific individuals and companies to American economic growth. Emphasis is placed on the physical prerequisites, the maturation of the firm, the role of the corporation, the government, the marketing of scientific discovery, labor-management relations, the uses of wealth, enterprise in the West, the stakes of entrepreneurship and the image of business in a changing society. Analysis of eras and topics is supplemented by case studies and student investigations. Credit not granted for both Hist. 315 and Econ. 100 or Am. St. 110. A 18 315 0 2205

318. American Business: The Second Century. (3). The course begins with 1900 and leads to the present with some focused speculation about the future of American private enterprise. Representative incidents in the history of specific companies are examined in detail. Emphasis is on government regulation, market trends, business cycles, technological change, business and society. The U.S. in world trade, changes in corporate organizational structure and management techniques, ethic and lifestyle in American companies, economic thinkers, business biography and the business history of Wichita and Kansas. Analysis of eras and topics is supplemented by case studies and student investigations. Credit not granted for both Hist. 316 and Econ. 100 or Am. St. 110. A 18 318 0 2205


340. World War II. (3). An introduction to the background and causes of World War II, as well as the military, diplomatic, economic, psychological and scientific dimensions of the war. The legacy of the war will be considered in light of the postwar world. A 18 340 0 2205
730. Seminar in American History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 730 9 2205

733. Seminar in European History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 733 9 2205

734. Seminar in European History. (3). Repeatable for credit. Prerequisite: departmental consent. A 18 734 9 2205

750. Workshop in History. (1-3). Repeatable for credit but does not satisfy requirements for history majors. A 18 750 2 2205

**Courses for Graduate Students Only**

801. Thesis Research. (2). A 18 801 4 2205

802. Thesis. (2). A 18 802 4 2205

803. Internship in Public History. (1-2). Public History students will have the opportunity to practice their skills in summer or semester internships. Type and level of responsibility will vary depending on student's interests and work setting. Internship should be in area related to student's MA thesis. Prerequisite: Consist of public history faculty. A 18 803 2 2205

810. Special Topics in History. (1-3). Open only to graduate students. Repeatable for credit to a maximum of four hours. A 18 810 3 2205

**Interdisciplinary Liberal Arts and Sciences Program**

**Lower-Division Courses**

101. Regents Honors Academy 1. (3). Course material, the content of which is derived from Liberal Arts and Sciences and provides an interdisciplinary focus, is specifically designed for Kansas Regents Honors Academy. Prerequisite: restricted to members of the Kansas Regents Honors Academy. A 33 101 2 4901

102. Regents Honors Academy 2. (3). Course material, the content of which is derived from Liberal Arts and Sciences and provides an interdisciplinary focus, is specifically designed for Kansas Regents Honors Academy. Prerequisite: restricted to members of the Kansas Regents Honors Academy. A 33 102 2 4901

222Q. East Asia. (1). Cross-listed as Hist. 222Q and Pol. S. 222Q. A survey of basic topics on China, Korea and Japan, covering the period from 5000 B.C. to the present, including geography, prehistory, history, culture, anthropology, society, philosophy, religion, politics and the economics of each country. The course is taught by a team of instructors from several departments. A 10 2220 Q 0 4911

281. Cooperative Education. (1-4). The course provides employment opportunities or approves current employment, when appropriate, to integrate academic theory with practical experience. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated. Offered C/NCR only. A 33 281 2 4903

**Upper-Division Courses**

300G. Peace and War: Global Issues. (3). An introduction to the study of conditions which had led to war or peace in the past and which may do so now in a nuclear age. Diverse views are presented on worldwide issues from the perspectives of the natural and social sciences, the arts and humanities, and applied studies. A 33 300 Q 4093

398. Travel Seminar. (1-4). An interdisciplinary travel seminar: a study of culture that includes observations of art and architecture, lectures and discussions of political, social and economic problems, and visits to various historic places of interest. A 10 398 Q 4903

481. Cooperative Education. (1-4). The course provides employment opportunities or approves current employment, when appropriate, to integrate academic theory with practical experience. Individualized programs must be formulated in consultation with and approved by appropriate faculty sponsors. May be repeated. Offered C/NCR only. A 33 481 2 4903

**Courses for Graduate Students Only**

800. Seminar: Research Goals and Strategies. (3). An introduction to research goals, methods and sources in the humanities, social sciences and natural sciences, with special attention to the opportunities and problems of integrating research activities involving more than one area of study. A 33 800 Q 4999

875. Thesis. (1-6). A course for students who are finishing the Master of Arts in Liberal Studies (MALS). The student writing a thesis must be enrolled in this course until the thesis is completed and all thesis requirements have been satisfied. Prerequisite: consent of student's degree committee chairperson and instructor. A 33 875 Q 4999

885. Terminal Project. (2-6). A course for students who are near the end of their MALS program and involved in a terminal project. The terminal project may have many aspects such as field work, practicum, internship, research report or any other individualized activity, but the scope of it must be approved by the student's advisory committee. The student involved in a project must be enrolled in this course until the project is completed and all project requirements have been satisfied. A 33 885 Q 4999

**Courses for Graduate/Undergraduate Credit**

151G. 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 151G Q 1505


**Upper-Division Course**


**Courses for Graduate/Undergraduate Credit**


686. Linguistics. Comparative Linguistics. (3). Methods of establishing genetic relationships 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. A 10 686 Q 1505

682. Linguistics. Structure of a Selected Non-Indo-European Language. (3). The language offered depends on student demand and availability of staff. The course may sometimes be conducted as a field methods course and is repeatable for credit when different languages are offered. Prerequisite: Ling. 315. A 10 682 Q 1505

**Group A—Basic Linguistic Theory**

**Lower-Division Courses**


515G. Italian (See Modern and Classical Languages and Literatures)

515L. Latin and Greek (See Modern and Classical Languages and Literatures)

516. Linguistics. The Bachelor of Arts degree in linguistics was phased out beginning in 1987; however, students presently enrolled in the program will be accommodated. An emphasis in linguistics will be available through the general studies program. Major. A major in linguistics consists of a minimum of 24 hours from the courses listed below, including at least nine hours from Group A and at least one phonetics course—Ling. 218, Fren. 505 or Span. 505. A major must be combined with either a minor in a foreign language or the 111-112 sequence in two different foreign languages and three hours beyond 112 in one of them, or the equivalent.

Minor. A minor in linguistics consists of 15 hours from the following courses. At least six hours must be taken from Group A.

Note. Courses applied toward another major or minor will not apply toward a major or minor in linguistics.
Mathematics and Statistics

Mathematics

Note: For ease of description, certain courses in mathematics and statistics are categorized in the following groups (the courses in Group R are required of all majors):

Group R: Math. 415, 511, 550, 551
Group A: Math. 545, 547
Group B: Math. 513, 615, 621, 690, 720, 725

Group C: Stat. 571, 572, 574, 576, 671, 771, 772
Group D: Math. 530, 553, 640, 657, 714, 751, 753, 756, Stat. 761, 762

Major.* For the Bachelor of Arts (BA) degree in a major in mathematics, students must complete all courses in Group R and one each from Groups A and B. In addition, the BA candidate must complete Math. 531 and two additional courses from those listed in Groups A, B, C and D.

For the Bachelor of Science (BS) degree in mathematics, students must complete all courses in Group R and one each from Groups A, B, C and D. In addition, the BS candidate must complete two additional courses from those listed in Groups C and/or D.

For the Bachelor of Science (BS) degree in mathematics with emphasis in statistics, students must complete all courses in Group R and one course in Group A. In addition, the BS candidate must complete Math. 553 and 15 additional hours of courses in Group C or D with a statistics prefix which must include either Stat. 571-572 or Stat. 771-772. Students under this option may select statistics courses from other departments with the due approval of the Department of Mathematics and Statistics.

For students who are contemplating graduate work it is highly recommended that they include Math. 513, 547 and 640 in their program, along with courses in one or more of French, German or Russian.

Students majoring in mathematics should consult closely with their mathematics adviser on any of these programs.

Minor. For a minor in mathematics, students must complete the calculus sequence (242Q, 243, 344) and take at least one additional upper-division course approved by both the Department of Mathematics and Statistics and the student's major department.

Noncredit Courses

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

011. Algebra. (5). Offered Cr/NCr only. The topics from high school algebra essential to the study of university-level mathematics. This course may be used to meet departmental prerequisites in place of one and one-half units of high school algebra. Not applicable to degree. A 20 011 0 1701

021. Plane Geometry. (3). Offered Cr/NCr only. For students without high school credit in plane geometry. This course may be used to meet departmental prerequisites in place of one unit of high school geometry. Prerequisite: one unit of high school algebra. Math. 011 or concurrent enrollment in Math. 011. Not applicable to degree. A 20 021 0 1701

Lower-Division Courses

101Q. Mathematics Appreciation. (3). Elementary topics in mathematics of interest to persons in other fields. Designed especially for persons majoring in nontechnical fields. No credit toward a major or minor in mathematics. A 20 101Q 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 122. (Only three hours apply toward a Wichita State degree.) High school geometry or Math. 021 is a highly-recommended prepratory course. Prerequisite: one unit of high school algebra or Math. 011. A 20 109 0 1701

111. College Algebra. (3). A survey of functions, theory of equations and inequalities, complex numbers and exponential and logarithmic functions. High school geometry or Math. 021 is a highly-recommended preparatory course. P-requisites: one and one-half units of high school algebra or Math. 011. Credit is allowed in only one of the three courses Math. 109, 111 or 122. A 20 111 0 1701

112. Precalculus Mathematics. (5). Functions, theory of equations and inequalities, complex numbers, the trigometric functions, exponential and logarithmic functions and other standard topics prerequisite to a beginning study of calculus. This course is not available for credit to students who have received a grade of C or better in Math. 242Q or its equivalent. Prerequisites: one and one-half units of high school algebra or Math. 011. and one unit of high school geometry or Math. 021. Credit is allowed in only one of the three courses Math. 109, 111 or 122. A 20 112 0 1701

123. College Trigonometry. (3). A study of the trigonometric functions with applications. Prerequisite: Math. 109 or 111, or equivalent high school preparation, and one unit of high school geometry or Math. 021. Credit in both Math. 123 and 112 is not allowed. A 20 123 0 1701

144. Business Calculus. (3). A brief, but careful, introduction to calculus for students of business and economics. Credit in both Math. 144 and 242Q is not allowed. Prerequi-

Logopedics

(See Communicative Disorders and Sciences, College of Education)
Courses for Graduate/Undergraduate Credit

Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

501. Elementary Mathematics. (5). A study of topics necessary to an understanding of the elementary school curriculum, such as set theory, real numbers and geometry. Not for major or minor credit. Prerequisites: elementary education major and Math. 111 or equivalent or departmental consent. A 20 501 0 1701

501. Linear Algebra. (3). An elementary study of linear algebra, including an examination of linear transformations and matrices over finite dimensional spaces. Prerequisite or corequisite: Math. 344. A 20 511 0 1701

513. Fundamental Concepts of Algebra. (3). Groups, rings and fields. Prerequisite: Math. 511 or departmental consent. A 20 513 0 1701

530. Applied Combinatorics. (3). Basic counting principles, occupancy problems, generating functions, recurrence relations, principles of inclusion and exclusion, the pigeonhole principle, Fibonacci sequences and elements of graph theory. Prerequisite: Math. 344 with a grade of C or better. A 20 530 0 1703

531. Introduction to the History of Mathematics. (3). A study of mathematics and mathematicians from antiquity to the present, emphasizing how various areas of mathematics evolved. Problems are solved using the methods of the historical period in which they arose. Requires mathematical skills. Prerequisites: Math. 511 and at least six additional hours of mathematics and/or statistics courses numbered 500 or above. A 20 531 0 1701

545. Integration Techniques and Applications. (3). A study of the basic integration techniques used in applied mathematics. Included are the standard vector calculus treatment of line and surface integrals, Green's Theorem, Stokes' Theorem and The Divergence Theorem. In addition, the study of improper integrals with application to special functions is included. Prerequisite: Math. 344 with grade of C or better. A 20 545 0 1701

547. Advanced Calculus I. (3). A detailed study of limits, continuity and integration. Prerequisite: Math. 344 with a grade of C or better. A 20 547 0 1701

550. Ordinary Differential Equations. (3). An investigation of integrating factors, separation of variables, critical points, linear differential equations with constant coefficients, variation of parameters and existence and uniqueness for initial value problems and systems. Prerequisite: Math. 344 with a grade of 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: Math. 344 with grade of C or better and a knowledge of FORTRAN, or departmental consent. A 20 551 0 1703

553. Mathematical Models. (2). This course covers case studies from the fields of engineering, technology and the natural and social sciences. The emphasis is to describe a problem and then develop the mathematics necessary to solve the problem. The case studies are selected to illustrate a variety of the topics from among linear algebra, differential and integral equations, stochastic processes, statistics and combinatorics. Each student is required to participate in a term project which is to be the solution of a particular problem approved by the instructor. Prerequisite: Math. 344 or departmental consent. A 20 553 0 1703

560. Selected Topics in Mathematics. (3). This course is to be chosen from among and will be not otherwise represented in the curriculum. May be repeated up to a maximum of six hours credit with departmental consent. Prerequisite: departmental consent. A 20 560 0 1701

561. Elementary Number Theory. (3). Properties of the integers studied by elementary means. Prerequisite: Math. 344 or departmental consent. A 20 561 0 1701

612. Elementary Geometry. (3). A study of the structure of Euclidean geometry. Prerequisite: Math. 344 or departmental consent. A 20 621 0 1701

640. Advanced Calculus II. (3). An examination of calculus of functions of several variables and line and surface integrals. Prerequisites: Math. 511 and at least six additional hours of mathematics and/or statistics courses numbered 500 or above. A 20 640 0 1701

657. Optimization Theory. (3). An introduction to selected topics in linear and nonlinear optimization. The revised simplex method is developed along with a careful treatment of duality. The theory is then extended to solve parametric, integer and mixed integer programs. Other topics include additional methods in integer programs and classical methods in nonlinear optimization. Prerequisite: Math. 511. A 20 657 0 1703

690. Introduction to Mathematical Logic. (3). A study of symbolic logic including an axiomatic development of propositional calculus and first-order predicate calculus, an introduction to the role of formal languages in mathematics and computer science and applications of logic such as Boolean algebra, switching circuits and model theory. Prerequisites: Math. 513 or departmental consent or departmental consent. A 20 690 0 1701

713. Abstract Algebra I. (3). A treatment of the standard basic topics in abstract algebra. Prerequisite: Math. 513 or departmental consent. A 20 713 0 1701

714. Applied Mathematics. (3). Cross-listed as Math. 514. Prerequisite: Math. 550 or instructor's consent. A 20 714 0 1703

720. Modern Geometry. (3). A study of fundamentals of modern geometry. Prerequisites: 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

750. Workshop. (1-3). Topics appropriate for mathematics workshops that are not in current mathematics courses. May be re-
peated to a total of six hours credit with departmental consent. Prerequisite: departmental consent. A 20 750 2 1701


753. Ordinary Differential Equations. (3). Existence, uniqueness, stability and other qualitative theories of ordinary differential equations. Prerequisite: Math. 545 or 547 or departmental consent. A 20 753 0 1703


757-758. Engineering Mathematics I and II. (3-3). A survey of some of the mathematical techniques most often needed in engineering. Math 757 includes vector analysis, linear algebra, Legendre functions and Bessel functions. Math 758 includes Fourier series, solution techniques for the partial differential equations of mathematical physics, and an introduction to complex analysis. No credit given toward an undergraduate or graduate degree in mathematics. Prerequisite: Math. 550. A 20 757 0 1703; A 20 758 0 1703

Courses for Graduate Students Only

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

825. Topology II. (3). A continuation of Math. 725. Prerequisite: Math. 725 or equivalent. A 20 825 C 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

851. Numerical Analysis II. (3). Numerical solution of ordinary and partial differential equations; unconstrained minimization of functions of “n” variables; and solutions of systems of equations. Prerequisite: Math. 751 or equivalent. A 20 851 0 1703


857-858. Selected Topics in Engineering Mathematics I and II. (3-3). Advanced 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 six hours with departmental consent. A 20 881 3 1701

885. Thesis. (1-4). May be repeated to a maximum of 12 hours of credit. Prerequisite: departmental consent. A 20 885 4 1701

941-942. Applied Functional Analysis I and II. (3-3). An introduction to functional analysis and its applications. Prerequisites: Math. 843 and 755 (Math. 755 may be a corequisite). A 20 941 0 1703; A 20 942 0 1703

947-948. Mathematical Theory of Fluid Dynamics I and II. (3-3). Mechanics of fluid flow, momentum and energy principles, Navier-Stokes and Euler equations, potential flows, vortex dynamics, stability analysis and numerical methods applied to fluid dynamics. Prerequisite: Math. 745. A 20 947 0 1703; A 20 948 0 1703


952. Advanced Topics in Numerical Analysis. (3). Advanced topics of current research interest in numerical analysis. Topics will be chosen at the discretion of the instructor. Possible areas of concentration are numerical methods in ordinary differential equations, partial differential equations and linear algebra. Prerequisites: Math. 751, 851 and instructor's consent. A 20 952 0 1703

958 & 959. Selected Advanced Topics in Applied Mathematics. (3-3). Topics of current research interest in applied mathematics. Repeatable for credit with departmental consent. Prerequisite: instructor's consent. A 20 958 0 1703 & A 20 959 0 1703

981. Advanced Independent Study in Applied Mathematics. (1-3). Arranged individual directed study in an area of applied mathematics. Repeatable to a maximum of 6 hours. Prerequisite: must have passed the PhD qualifying exam and instructor's consent. A 20 981 0 1703

985. PhD Dissertation. (1-9). Repeatable to a maximum of 24 hours. Prerequisite: must have passed the PhD preliminary exam. A 20 985 0 1703

Statistics
No major or minor in statistics is available, but a BS degree with emphasis in statistics is offered as described under the mathematics section. Statistics courses satisfy general education requirements. As part of the 124 semester hours required for graduation, students may take up to 15 semester hours of statistics courses in addition to the 45 or 50 semester hours of course work allowed in mathematics.

Lower-Division Course

1700. 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 specific knowledge of mathematics. A 20 1700Q 0 1702

Upper-Division Courses

360Q. Elementary Probability. (3). Probability functions, random variables and expectation of finite sample spaces. Prerequisite: Math. 111, 112 or 331. A 20 360Q 0 1701


Courses for Graduate/Undergraduate Credit

Credit in courses numbered below 600 is not applicable toward the MS in mathematics.

570. Special Topics in Statistics. (3). Topics of interest not otherwise available. Prerequisite: departmental consent. A 20 570 1 1702

571-572. Statistical Methods I and II. (3-3). Probability models, points and interval estimates, statistical tests of hypothesis, correlation and regression analysis, introduction to nonparametric statistical techniques, least squares, analysis of variance and topics in design of experiments. Prerequisite: Math. 144 or 243 or departmental consent. A 20 571 1 1702; A 20 572 1 1702

574. Elementary Survey Sampling. (3). A brief review of basic statistical concepts and simple random, stratified, cluster and systematic sampling; selection of sample size, ratio and estimation and costs. Applications involve problems from the social and natural sciences, business and other disciplines. Prerequisite: any elementary course in statistics, such as Stat. 370, Soc. 501 or Psy. 401. A 20 574 1 1702

576. Applied Nonparametric Statistical Methods. (3). Assumptions and needs for nonparametric tests, rank tests and other nonparametric inferential techniques. Applications involve problems from engineering, medicine, education, social and natural sciences and other disciplines. Prerequisite: any elementary statistics course such as Stat. 370, Soc. 501 or Psy. 401. A 20 576 1 1702

671. Probabilistic Models and Statistical Methods. (3). A study of independent and dependent random variables; probability distributions such as Gamma, Weibul, Beta,
Normal, Binomial, etc.; reliability and life testing; and topics on statistical inference with emphasis on applications to engineering. No credit given to students majoring in statistics. Prerequisites: Math. 344 with a grade of C or better. A 20 671 0 1702

761. Probability. (3). A study of axioms of probability, discrete and continuous random variables, expectation, examples of distribution functions, characteristic functions, random variables, modes of convergence, the law of large numbers and central limit theorem, and conditioning and the Markov property. Prerequisites: Math. 743 and Stat. 761 or 771. A 20 681 0 1702

767. Theory of Statistics I and II. (3-3). An examination of theoretical dependence, distribution 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 a grade of C or better or departmental consent. A 20 771 0 1702; A 20 772 0 1702

771-772. Theory of Statistics I and II. (3-3). A study of axioms of probability theory which will emphasize the covariance of probability measures, distribution functions, characteristic functions, random variables, modes of convergence, the law of large numbers and central limit theorem, and conditioning and the Markov property. Prerequisites: Math. 743 and Stat. 761 or 771. A 20 681 0 1702

781. Theory of Statistical Inference. (3). Course will cover asymptotic theory of maximum likelihood estimation, sufficiency and completeness, unbiased estimation, elements of decision theory and the Neyman-Pearson theory of testing hypotheses. Prerequisites: Stat. 772 and 861. A 20 871 0 1702

782-873. Theory of Linear Models I and II. (3-3). An introduction to the theory of linear models and analysis of variance. The coverage of topics will include multivariate normal distribution, distributions of quadratic forms, general linear models, general linear hypothesis, confidence regions, prediction and tolerances and distributions of censored data. Prerequisites: Stat. 572 and Stat. 772. A 20 872 0 1702; A 20 873 0 1702

784. Sampling Techniques—Theory and Application. (3). An introduction to the theory of sampling surveys; estimation of means, totals, proportion and variances; simple random sampling, stratification, systematic sampling, randomization, double randomization, stratification, systematic sampling, ratio and regression methods of estimation; and unequal probability sampling. Prerequisite: Stat. 772. A 20 872 0 1702; A 20 873 0 1702

787. Design of Experiments. (3). A study of basic concepts of experimental design which includes completely randomized design, factorial designs, split-plot designs, incomplete block designs and the analysis of variance. Prerequisite: Stat. 572 or Stat. 772. A 20 875 0 1702

786. Nonparametric Methods. (3). An introduction to the theory of nonparametric statistics. Coverage will include order statistics, tests based on runs; tests of goodness of fit; rank-order statistics; one-, two- and k-sample problems; linear rank statistics; measure of association for bivariate samples; and asymptotic efficiency. Prerequisite: Stat. 772. A 20 876 0 1702

877. Multivariate Statistical Methods. (3). Elementary theory and techniques of analyzing multidimensional data which will cover Hotelling's T^2, multivariate analyses of variance, principal components analysis, linear discrimination analysis, canonic analysis and analyses of categorgical data. Prerequisites: Math. 511 and Stat. 772. A 20 877 0 1702

878. Special Topics. (2-3). Repeatable with departmental consent. Prerequisite: departmental consent. A 20 878 0 1702

879. Individual Reading. (1-5). Prerequisite: departmental consent. A 20 879 0 1702

971 & 972. Selected Advanced Topics in Probability and Statistics. (3-3). Topics of current research interest in probability and statistics. Repeatable for credit with departmental consent. Prerequisite: instructor's consent. A 20 971 0 1702 & A 20 972 0 1702

978. Advanced Independent Study in Probability and Statistics. (1-3). arranged individual directed study in an area of probability or statistics. Repeatable to a maximum of 6 hours. Prerequisites: must have passed the Ph.D candidacy exam and instructor's consent. A 20 978 0 1702

986. PhD Dissertation. (1-9). Repeatable to a maximum of 24 hours. Prerequisite: must have passed the PhD preliminary exam and instructor's consent. A 20 986 0 1702

Minority Studies

The department's objective is to increase the student's cross-cultural communication skills by providing exposure to and an understanding of communication uniqueness among members of America's ethnic/cultural groups, thereby minimizing the barriers that often hamper effective cross-cultural communication.

The department offers courses and programs to stimulate favorable interaction among people, thus reducing ethnic tension. Emphasis is on cross-cultural communication, which stresses the uniqueness of the individual's cultural experiences and resulting behavior which affects communications across ethnic and cultural lines.

Major. The major in minority studies consists of at least 24 hours, including Min. S. 100Q; 210Q; 220, 2400 or 260; and three of the following: 331, 332, 333, 334, 337 or 540.

Minor. A minor in minority studies consists of at least 15 hours. The courses are to be approved by the student's advisor in the department.

Lower-Division Courses

100Q. 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. Open only to minority students. Coverage of some alternative styles of behavior in dealing with problems peculiar to minority people in the United States is also undertaken. A 30 100Q 0 2299

210Q. Fundamentals of Cross-Cultural Communications. (3). An examination of the effects of different cultures on language and methods of communicating. A study of communications and its relationship to behavior in this country also is made. A 30 210Q 0 4999

220. Martin Luther King, Jr. (3). This course provides students with a study of the life and philosophy of the Rev. Dr. Martin Luther King, Jr. Special emphasis is placed on the motivation, obstacles and social impact of Dr. King's life on the civil rights movement and inter racial relations in the United States. A 30 220Q 0 4999

240Q. Minority Women in America. (3). Cross-listed as Wom. S. 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, reactions and emotions. A 30 240Q 0 2299

260. Prominent Minorities in the Making of America. (3). Designed to explore, compare and contrast minority thought and processes for social, economical and political reform. Class delves into the social concepts of prominent American minorities through the coverage of popular novels, biographies, autobiographies, rhetoric, etc. Prerequisite: Min. S. 100Q. A 30 260 0 2299

Upper-Division Courses

331. The Black Family. (3). This course examines the fictional and factual images of black American families from slavery to the present. The primary focus will be on the adaptive abilities of poor, working class and middle-class black families. Prerequisites: Min. S. 100Q, 210Q or instructor's consent. A 30 331 0 4999

332. The Native American. (3). This course examines contemporary issues facing the Native American with special focus on the Osage tribe. Prerequisites: Min. S. 100Q, 210Q or instructor's consent. A 30 332 0 4999

333. Issues in the Chicano Community. (3). This course examines a variety of social, psychological and political concerns affecting Chicano Americans. It is given to the impact of immigration and the media's role in the portrayal of the Chicano. Prerequisites: Min. S. 100Q, 210Q or instructor's consent. A 30 333 0 4999

337. Black/White Communication in an Urban Setting. (3). With a special focus on educational institutions and the workplace, this course examines the areas in which communication breakdowns are most likely to occur between blacks and whites. Prerequisites: Min. S. 100Q, 210Q or 331 or instructor's consent. A 30 337 0 4999

481. Cooperative Education. (1-4). This course allows the student to examine the impact of minority status in the work environ-
Courses for Graduate/Undergraduate Credit

512. Issues in Minority Aging. (3). Cross-listed as Geron. 512. Addresses the needs and interests of students who are interested in (1) providing services to the minority elderly; (2) exploring the “issues” of concern to minority elderly; (3) becoming familiar with the rights of older/minority Americans; (4) learning the legal procedures for resolving many of the specific problems of the minority elderly; and (5) offering tried and tested solutions to the problems encountered by minority elderly. Prerequisites: Min. S. 100Q, Geron. 100, Soc. 111Q or instructor's consent. A 17 512 0 4999

540. Advanced Cross-Cultural Communications. (3). An advanced study on special topics in human relations. Prerequisite: Min. S. 380 or concurrent enrollment. A 30 540 0 4999

580. Individual Projects. (3). This course allows the student to conduct independent research related to a specific minority group. Prerequisite: 50 hours of Wichita State credit or departmental consent. Repeatable for a total of six hours. A 30 580 3 2299

725. Concepts of Cross-Cultural Communications. (3). A critical survey of the concepts of cross-cultural communications. An in-depth study 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. 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 30 750 2 4999

Modern and Classical Languages and Literatures

The Department of Modern and Classical Languages and Literatures works to instill in students an awareness and appreciation of other languages and cultures. The department grants the Bachelor of Arts degree in all languages regularly taught, the Bachelor of Arts in Secondary Education with a major in any of the languages taught, the Master of Arts in Spanish, and the Master of Arts in Liberal Studies with area concentrations in French, German, Spanish, Latin, or Greek.

A wide range of courses in language, literature, civilization, translation and linguistics are offered on campus as well as in summer programs in Strasbourg, France, and Puebla, Mexico. Scholarships are available for the study-abroad programs. In addition, the Eugene Saiviano scholarship is given to one outstanding high school senior who plans to major in any of the romance languages at Wichita State. Graduate students interested in applying for teaching assistantships and graduate research assistantships should consult the graduate catalog or the graduate coordinator.

Chinese

Lower-Division Courses

111. Elementary Chinese I. (5). This course is an introduction to the Chinese language with an emphasis on the basic elements of learning the fundamentals of speaking, understanding, reading and writing modern Chinese. A 17 111 0 1107

112. Elementary Chinese II. (5). The continuation of the introduction to the Chinese language with an emphasis in learning the fundamentals of pronunciation, speaking, understanding, reading and writing the language. Prerequisite: Chinese 111 or an equivalent learning experience. A 17 112 0 1107

220. Intermediate Chinese. (5). Continues development of speaking, reading and writing skills. Prerequisite: Chinese 112 or departmental consent. A 17 220 0 1107

French

Major. A major in French consists of a minimum of 33 semester hours beyond Fren. 112 or its equivalent, and must include the following courses: Fren. 220, 223, 227, 300, 526, 551 or 552 or equivalents. In addition, 15 hours must be selected from courses numbered above 500. No fewer than nine hours must be literature.

Related Fields. In addition to the above courses, it is strongly recommended that French majors take courses in related fields such as other foreign languages, art history, English, history and philosophy.

Student Teaching. Students who plan to teach French should consult with the department’s professor in charge of teacher education early in their college careers. In addition to the major requirements, it is recommended that future teachers take courses beyond the general education requirements in foreign languages, history, art history, English or philosophy. It is also recommended that future French teachers spend at least a summer in a French-speaking country before student teaching.

Requirements for entering this program are:

1. Grade point average of 3.00 or higher in French
2. Special departmental approval based on demonstrated proficiency in the use of both oral and written French (not based on course grades)
3. Basic courses in education required by the Teacher Education Program (see College of Education).

Minor. A minor in French consists of a minimum of 12 semester hours beyond Fren. 112 and must include Fren. 220, 223, 300 and one upper-division French course numbered 500 or above.

Native Speakers. Native and near-native speakers of French are not permitted to take courses at the 100 or 200 level but must take a minimum of 12 upper-division semester hours in order to complete a major in French. These students are advised to consult with a French professor before enrolling in French courses.

High School French. Students who have completed more than two units of high school French should consult with an adviser in the French department before enrolling in French courses.

Lower-Division Courses

111-112. Elementary French. (5-5). An introductory course emphasizing speaking, reading, writing and grammar essentials. Daily classroom and laboratory work is required. A 26 111 0 1102; A 26 112 0 1102

150. Workshop In French. (2-4). Repeatable for credit. A 26 150 2 1102

210Q. Intermediate French. (5). French review with emphasis on conversation, folklore and modern culture. Prerequisite: two units of high school French or Fren. 112 or departmental consent. A 26 210Q 0 1102

215. Study Abroad. (3-6). Transfer of credit from a French-speaking university in (a) grammar, (b) conversation, (c) reading. A 26 215 0 1102

220. Intermediate French Grammar and Composition. (3). Prerequisite: Fren. 112 or departmental consent. A 26 220 0 1102

223. Intermediate French Readings I. (3). Intensive reading of French literary works of the modern period. This course may be used to meet the LAS literature requirement. Prerequisite: Fren. 112 or equivalent. A 26 223 0 1102

227. French Conversation. (1-3). Assignments to increase oral fluency. Emphasis is on teaching new vocabulary and idiomatic structures. Exercises in the language laboratory. Prerequisite: Fren. 112 or equivalent. A 26 227 0 1102

Upper-Division Courses

300. Intermediate French Readings II. (3). Intensive reading and analysis of French literary works of all periods. This course may be used to meet the LAS literature requirement. Prerequisite: Fren. 223 or equivalent. A 26 300 0 1102

325. Intermediate French Conversation. (3). Continued practice in the use of the spoken language with an emphasis on developing fluency. Prerequisite: Fren. 227 or 215 or equivalent. A 26 325 0 1102

Courses for Graduate/Undergraduate Credit

Upper-division courses are given on a rotating basis. Fren. 300 is a prerequisite for all upper-division literature and civilization courses, unless otherwise indicated. All literature courses, including Fren. 223 and 300, may fulfill the general education literature requirement.
505. French Phonetics. (3). 2R; 1L. Cross-listed as Ling. 605. Corrective phonetics for non-native speakers of French. Topics include articulatory phonetics, phonology, phonemes, sound symbol correspondences, dialectical and stylistic variations. Highly recommended for future French teachers. Prerequisite: French 227 or 220 or equivalent. A 26 505 0 1102

515. Major Topics. (1-4). Special studies in (a) language, (b) literature, (c) commercial French, (d) the language laboratory, (e) music, (f) composition, (i) problems in teaching French, (j) civilization, (l) translation, (k) conversation and (m) phonetics. Repeatable for credit. Prerequisite: departmental consent. A 26 515 0 1102

525. Advanced Conversation. (3). A course designed to increase fluency in speaking French. Assignments include oral reports, dialogues and work in the language laboratory. Prerequisite: Fren. 325 or equivalent. A 26 525 0 1102

526. Advanced Composition and Grammar. (3). Emphasis on theme writing, original compositions and detailed study of modern French grammar. Prerequisite: Fren. 220 or departmental consent. A 26 526 0 1102

5400. French Literature in English Translation. (3). Topic varies. May be used to satisfy the general education literature requirement and may count toward a French major or minor if readings and papers are done in French. A 26 5400 0 0312

541Q. French Literature of Africa and the Caribbean in English Translation. (3). A study of the concept of Negritude through the works of major contemporary African and Caribbean writers. No knowledge of a foreign language is necessary. This course may count toward a French major or minor if readings and papers are done in French. A 26 541Q 0 0312

551. French Civilization: The Middle Ages to the Restoration. (3). Emphasizes key aspects of the civilization of France as seen in its art, architecture, political structure and history, social evolution and intellectual traditions. The course is interdisciplinary in nature and is designed to complement studies in French language and literature. Includes slide demonstrations, guest speakers on special topics and films. Most classes and required readings are in French. Prerequisite/corequisite: Fren. 300. A 26 551 0 1105

552. Contemporary French Civilization. (3). Emphasizes the major events, themes, ideas and movements in French civilization since the Revolution. The course is interdisciplinary in nature and is designed to complement French language and literature courses. Classwork and readings are in French. Prerequisite/corequisite: Fren. 300. A 26 552 0 1105

623. Seminar in French. (3). Seminar in French literature, language or civilization. Prerequisite: two literature courses in French numbering above 500. Repeatable for credit. A 26 623 0 1102

630. Medieval and Renaissance French Literature. (3). Prerequisite: Fren. 300. A 26 630 0 1102

631. 17th Century French Literature. (3). Prerequisite: Fren. 300. A 26 631 0 1102

632. 18th Century French Literature. (3). Prerequisite: Fren. 300. A 26 632 0 1102

633. 19th Century French Literature. (3). Prerequisite: Fren. 300. A 26 633 0 1102

634. Contemporary French Literature. (3). Prerequisite: Fren. 300. A 26 634 0 1102

635. Introduction to Romance Language Linguistics. Cross-listed as Span. 635 and Ling. 635. An introduction to the historical phonology and morphology of the romance languages with particular emphasis on French and Spanish. Prerequisite: departmental consent. A 26 635 0 1102

636. 20th Century French Literature. (3). Reading and discussion of major works of French fiction, poetry and drama from 1900 to 1950. Prerequisite: Fren. 300. A 26 636 0 1102

750. Workshop in French. (2-4). Repeatable for credit. A 26 750 2 1104

815. Special Studies in French. (3). Prerequisite: departmental consent. Repeatable for credit. A 26 815 0 1102

German
Major A. A major in German consists of a minimum of 24 hours beyond the level of Germ. 112. Students may select an emphasis in literature or in language as described below.

The literature emphasis is recommended for students whose concerns are primarily in the humanities or who anticipate graduate study in literature. Students must take Germ. 324, 341 or 441Q, 524, Eng. 315 and at least six hours in Germ. 650.

The language emphasis is suggested for students whose objectives are in teaching (see Major B), linguistics or in the application of language skills in support of other professional pursuits. Students must take Germ. 301, 324, 341 or 441Q, 524 and Eng. 315.

Native speakers of German are not normally permitted to enroll in 100- and 200-level German courses or to receive credit in such courses by advanced standing examination. A minimum of 18 hours in upper-division courses, including Germ. 524 and Eng. 315 is normally required for a native speaker to earn a German major. Native speakers of German should consult with the department before enrolling in German courses.

Major B. The teaching major in German consists of a minimum of 24 hours beyond the level of Germ. 112. Students who wish to enter the student teaching program should consult with the department's professor in charge of teacher education early in their college careers. Requirements for entering the student teaching semester include:

1. Grade point average in German of 3.00 or above

2. Special departmental approval based on demonstrated competencies in the use of both oral and written German (not based on course grades)

3. Basic courses in education required by the Teacher Education Program (see College of Education.)

Minor. A minor in German consists of 11 hours beyond the 112 level. Students are permitted to count no more than one of the following for minor credit: Germ. 341, 441Q or 641.

Noncredit Course
010. German for Graduate Reading Examination. (3). A reading course designed to prepare students to fulfill departmental requirements of a reading knowledge of German for the master of arts or master of science. No previous knowledge of German is required. This course does not count toward a degree. Offered CR/NC only. A 17 010 0 1103

Lower-Division Courses

101. Beginning German. (3). An introductory course for acquiring practical skill in speaking and understanding everyday German as well as general information concerning German-speaking countries. Does not substitute for Germ. 111. A 17 101 0 1103

102. Beginning German II. (3). A continuation of Germ. 101. For acquiring practical skill in speaking and understanding everyday German as well as general information concerning contemporary German-speaking countries. Does not substitute for Germ. 112. Prerequisite: Germ. 101. A 17 102 0 1103

111-112. Elementary German. (5-5). An introductory course emphasizing speaking, reading, writing and grammar essentials. Does not count toward a degree. Offered CR/NC only. A 17 111 0 1103; A 17 112 0 1103

2200. 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. Recommended for all students with high school German and for transfer students with the college German equivalent of 112. A 17 2200 0 1103

223. Intermediate German I. (3). Intensive reading and discussion of short works. Prerequisite: Germ. 112 with grade of C or better or departmental recommendation to transfer from Germ. 220Q. A 17 223 0 1103

225. German Conversation. (2). The development of oral fluency. Prerequisite: Germ. 220Q or 223. May be taken concurrently with Germ. 223. A 17 225 0 1103

Upper-Division Courses

301. German Phonetics and Pronunciation. (1). A practical course to improve pronunciation of individual speech sounds as well as intonation and rhythm of sentences. Prerequisite: Germ. 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: Germ. 225 or instructor's consent. A 17 324 0 1103

341. Civilization of the German-Speaking Countries. (3). Selected topics on significant aspects of life and thought in Germany, Austria and Switzerland. The emphasis is on the modern period with special attention paid to the interrelation of cultural trends. A knowledge of German is not required. A 17 341 0 0312

344Q. Intermediate German II. (3). Readings in German civilization accompanied by extensive studies of selected literary works. Prerequisite: Germ. 223 or equivalent. A 17 344Q 0 1103

441Q. Culture of the Two Germanies. (3). Study of the culture and life in the Federal Republic of Germany and the German Democratic Republic since 1945. A knowledge of German is not required. Does not count toward fulfillment of language requirement. A 17 441Q 0 1103

Courses for Graduate/Undergraduate Credit

524. Advanced Conversation and Composition. (3). Prerequisites: Germ. 324 or instructor's consent. A 17 524 0 1103

650. Directed Study. (1-3), Enrollment in any of the areas listed takes place only upon consultation with the department and agreement with the instructor concerned: (a) introduction to the study of German literature; (b) survey I: from the medieval period through the Age of Goethe; (c) survey II: 19th century to 1945; (d) contemporary literature: the literature of both Germanies since 1945; (e) special topics in literature, repeatable once for credit; (f) special topics in language, repeatable once for credit. Prerequisite: Germ. 344Q or instructor's consent. A 17 650 0 1103

750. Workshop in German. (2-4), Repeatable once for credit. A 17 750 2 1103

815. Special Studies in German. (3). Readings in German literature or culture. Course may be repeated for credit when the topic changes. Prerequisite: graduate standing or departmental consent. A 17 815 0 1103

Greek (Ancient Classical)

There is no major in Greek. A minor consists of 11 hours beyond the 111-112 level.

Lower-Division Courses

112. Elementary Greek. (5-5). Basic grammar with emphasis on early reading. A 26 112 0 1110

223. Intermediate Greek. (3). Plato and Herodotus. Prerequisite: Greek 111-112. A 26 223 0 1110

224. Intermediate Greek. (3). Homer's Iliad. Prerequisite: Greek 223. A 26 224 0 1110

Upper-Division Course

350Q. Classical Culture. (3). Study of representative masterpieces of Greek and Latin literature, historical and philosophic literature in the wider context of classical culture, including art, mythology, religion and political and private life. All works are in translation and no knowledge of Latin or Greek is required. Applies toward a major in classical studies, but not toward a minor in Latin or Greek. A 26 350Q 0 1110

Courses for Graduate/Undergraduate Credit

515. Special Studies. (1-4), Topic announced by instructor. Repeatable for credit. Prerequisite: Greek 224 or instructor's consent. A 26 515 0 1110

531. Advanced Greek. (3). Sophocles and Euripides. Prerequisite: Greek 224. A 26 531 0 1110

532. Advanced Greek. (3). Thucydides. Prerequisite: Greek 531. A 26 532 0 1110

Italian

There is no major in Italian. A minor in Italian consists of 12 hours beyond the 111-112 level and must include Ital. 515.

Lower-Division Courses

111-112. Elementary Italian. (5-5). Fundamentals of pronunciation and practice in speaking, understanding, reading and writing. A 26 111 0 1104; A 26 112 0 1104

220. Intermediate Italian Grammar and Composition. (3). Prerequisite: Ital. 112 or equivalent. A 26 220 0 1104

223-224. Selected Italian Readings. (3-3). Intensive reading of Italian literary works. Discussions in Italian, as well as oral and written summaries, are featured. Prerequisite: Ital. 112 or two units of high school Italian for Ital. 223; Ital. 223 or three high school units for Ital. 224. A 26 223 0 1104; A 26 224 0 1104.

225. Intermediate Conversation. (2). Prerequisite: Ital. 112 or departmental consent. A 26 225 0 1104

Courses for Graduate/Undergraduate Credit

515. Major Topics. (2-4), Special studies in Italian language, literature and civilization. Repeatable for credit. Prerequisite: departmental consent. A 26 515 0 1104

Japanese

Lower-Division Courses

111. Elementary Japanese I. (5). This course is an introduction to the Japanese language with an emphasis on the basic elements of learning the fundamentals of pronunciation, speaking, understanding, reading and writing the language. A 17 111 0 1108

112. Elementary Japanese II. (5). This course is a continuation of introductory Japanese with an emphasis on learning the fundamentals of pronunciation, speaking, understanding, reading and writing. Prerequisite: Japanese 111 or an equivalent learning experience. A 17 112 0 1108

220. Intermediate Japanese. (5). Continues development of speaking, reading and writing skills. Prerequisite: Japanese 112 or departmental consent. A 17 220 0 1108

Latin

Major A. A major in Latin consists of a minimum of 24 hours beyond Latin 112 or its equivalent, and must include at least nine hours of upper-division courses. Courses in Greek, ancient history, Greek philosophy or ancient art are strongly recommended for all majors.

Major B. The teaching major in Latin in either Fairmount College of Liberal Arts and Sciences or in the College of Education includes at least 24 hours beyond Latin 111-112 as listed under Major A, plus the basic courses required by the Teacher Education Program.

In addition to the major, it is recommended that future teachers take courses beyond the general education requirements in other foreign languages, history, art history, English or philosophy.

Students who wish to enter the student teaching program should consult with the department's professor in charge of teacher education early in their college careers. Requirements for entering the student teaching semester are:

1. Grade point average of 3.000 or higher in Latin

2. Special departmental approval based on demonstrated competencies in the use of Latin (not based on course grades)

Minor. A minor in Latin consists of a minimum of 11 hours beyond the 112 level and must include at least one 500-level course.

Lower-Division Courses

111-112. Elementary Latin. (5-5). Basic grammar with emphasis on early reading. A 26 111 0 1109; A 26 112 0 1109

150. Workshop in Latin. (2-4), Repeatable for credit. A 26 150 2 1109

223. Intermediate Latin. (3). General review of grammar with selected readings of prose and poetry. Prerequisite: Latin 112, two years of high school Latin or departmental consent. A 26 223 0 1109

224. Intermediate Latin. (3). Selected readings of prose and poetry. May be repeated for credit when the readings vary. Prerequisite: Latin 223 or departmental consent. A 26 224 0 1109

Courses for Graduate/Undergraduate Credit

Latin 224 or departmental consent is the prerequisite for all upper-division courses.

541. Roman Lyric Poetry. (3). The lyric poems of Catullus and Horace with emphasis on imagery, symbolism, structure, diction and meter. A 26 541 0 1109

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of lab.
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 translation of the Aeneid in the Augustan Rome and in the epic tradition. A 26 542 0 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

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 0 1109

652. Cicero. (3). The orations, letters and essays of Cicero. The study concentrates on Cicero as the master of Latin prose and as one of the most important political figures of the fall of the Roman Republic. A 26 652 0 1109

653. Lucretius and Epicureanism. (3). Reading of Lucretius' De Rerum Natura and study of Epicureanism, the atomic theory and 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 0 1109

Portuguese
No major or minor is offered in Portuguese.

Noncredit Course
060. Reading Portuguese. (2). Offered CR/CR only. Open to upper-division or graduate students who need to fulfill departmental requirements of a reading knowledge of a foreign language for the master of arts or master of science. No previous knowledge of Portuguese required. Does not count toward a degree. A 26 060 0 1120

Russian
There is no major or minor in Russian.

Lower-Division Courses
111. Elementary Russian. (5). A presentation of the sounds and structure of Russian with the purpose of developing the four basic skills of understanding, speaking, reading and writing. A 17 111 0 1106

112. Elementary Russian. (5). A continuation of Russian 111 in order to complete the presentation of elementary Russian grammar and enhance the four basic skills. Prerequisite: Russian 111 or equivalent. A 17 112 0 1106

210. Intermediate Russian. (5). Cultural readings and grammar review presented 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

Upper-Division Courses
300. Russian Literature in Translation. (3). Consideration of the works of one or two major authors, a literary movement, trend or a specific genre. No knowledge of Russian is necessary. Repeatable once for credit. A 17 300 0 1106

315. Special Studies. (1-3). Special studies in Russian language, literature and civilization. Repeatable for credit. Prerequisite: departmental consent A 17 315 0 1106

Spanish
Major. A major in Spanish consists of a minimum of 30 semester hours beyond Span. 111-112. There are three available options for majors. Basic to all three are the following courses: Span. 220, 223, 225, 300, 325, 526 and 526, or equivalents.

Literature. In addition to the above courses, a major emphasizing Hispanic literature requires 12 hours of upper-division literature and/or linguistics.

Language and Civilization. In addition to the basic courses listed above, a major with an emphasis in language and civilization requires 12 hours selected from the following courses: Span. 505, 515 or 622, 552, 557, 626, 627 and 635.

Teaching. The major with teaching emphasis in Spanish in either the Fairmount College of Liberal Arts and Sciences or the College of Education consists of at least 30 hours beyond Span. 112 or its equivalent. These hours must include the basic hours listed above plus a minimum of 12 upper-division hours, six of these chosen from the language major and six from the literature major. Span. 623 may substitute for 526.

In addition to the major, it is recommended that future teachers take courses beyond the general education requirements in other foreign languages, history, art history, English or philosophy.

Students who wish to enter the student teaching program must have a 3.00 grade point average in Spanish and departmental approval based on demonstrated proficiency in the use of both oral and written Spanish in order to be admitted to the professional semester. It is strongly recommended that teaching majors take Span. 505 and/or 623. Spanish majors seeking teacher certification must also complete the basic courses required by the Teacher Education Program. (See College of Education.)

Majors interested in teaching Spanish at the elementary school level should consult the department's professor in charge of teacher education.

Minor. A minor in Spanish consists of a minimum of 11 hours beyond the Span. 111-112 level and must include Span. 220, 223, 225 and one course at the 500 level or above.

Related Fields. Courses in Spanish or Latin American history, political science, economics or art are strongly recommended for all majors. With departmental approval courses in related fields taken in The Wichita State University Summer Program in Mexico may count toward the Spanish major.

Native Speakers. Native speakers are those who have completed a substantial amount of their education in a Spanish-speaking country. Native speakers of Spanish are normally not admitted to 100- and 200-level courses. To complete a major, 12 hours of upper-division work is required.

High School Spanish. Students who have completed more than two units of high school Spanish should consult with an adviser in the Spanish department before enrolling in Spanish courses.

Lower-Division Courses
111-112. Elementary Spanish. (5-5). Lab fee. Emphasis on the four fundamental skills in language learning: understanding, speaking, reading and writing. A 26 111 0 1105; A 26 112 0 1105

150. Workshop in Spanish. (2-4). Repeatable for credit. A 26 150 2 1105

2100. Intermediate Spanish. (5). Spanish review with emphasis on conversation and cultural readings. Not open to students with previous credit in Span. 221 (not offered any more). Designed primarily for students wishing to fulfill the liberal arts language requirement. It is recommended that prospective majors and minors go directly into Span. 222 or 225. Prerequisite: Span. 112, two units of high school Spanish or departmental consent. A 26 2100 0 1105

215. Intermediate Spanish II. (5) Intensive review of Spanish with special emphasis on conversation. Course offered only in Puebla, Mexico. Prerequisite: Span. 112; two units of high school Spanish or departmental consent. A 26 215 0 1105

220. Intermediate Spanish Grammar and Composition. (3). Prerequisite: Span. 112 or two units of high school Spanish. A 26 220 0 1105

223. Selected Spanish Readings. (3). Intensive reading of Latin American and Spanish literary works. Also includes outside readings and reports. Course may be used to meet the LAS literature requirement. Prerequisite: Span. 112 or two high school units of Spanish. A 26 223 0 1105

FAIRMOUNT COLLEGE/LANGUAGES 177
### Upper-Division Courses

**300. Intermediate Spanish Readings.** (3) Intensive reading and analysis of Spanish literary works of all periods. This course may be used to meet the LAS language requirement. Prerequisite: Span. 223 or departmental consent. A 26 300 0 1105

**325. Spanish Conversation II.** (2) Continuation of Spanish Conversation I with continued emphasis on fluency in Spanish and on vocabulary building. Prerequisite: Span. 225 or departmental consent. A 26 325 0 1105

**481. Cooperative Education.** (1-4) See Span. 281. Offered C/I/NCr only. A 26 481 2 1105

### Courses for Graduate/Undergraduate Credit

**505. Spanish Phonetics.** (2) Cross-listed as Ling. 505. Prerequisite: any 200-level course or departmental consent. A 26 505 0 1105

**515. Major Topics.** (1-4). Special studies in (a) language, (b) literary reports, (c) commercial Spanish, (d) the language laboratory, (e) music, (f) composition, (i) problems in teaching Spanish, (j) special topics in 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. Prerequisite: Span. 300 or departmental consent. A 26 531 0 1105

**532. Survey of Spanish Literature.** (3) Spanish literature from the beginning to 1700. Prerequisite: Span. 300 or departmental consent. A 26 532 0 1105

**534. Contemporary Spanish Theater.** (3) Prerequisite: Span. 300 or departmental consent. A 26 534 0 1105

**536. Contemporary Spanish Novel.** (3) Prerequisite: Span. 300 or departmental consent. A 26 536 0 1105

**540Q. Contemporary Spanish Literature in English Translation.** (3). Course content may vary from semester to semester, including Spanish and/or Latin American literature. No knowledge of a foreign language is necessary. This course may count towards a Spanish major or minor with departmental consent. Repeatable for credit. Prerequisite: departmental consent when counted toward a Spanish major or minor. A 26 540Q 0 1105

**552. Business Spanish.** (3). This course provides students the opportunity to learn and practice commercial correspondence, business vocabulary, translation and interpretation of business texts. Prerequisite: Span. 526. A 26 552 0 1105

**557. Literary and Technical Translating.** (3). Extensive translation of literary works and technical and legal documents from Spanish to English and English to Spanish. Prerequisite: Span. 526 or departmental consent. A 26 557 0 1105

**560. Spanish Play Production.** (1-3). In-depth study of a play as a work of literature, followed by the actual production of the work for the general public. Repeatable for credit. Prerequisite: Span. 300 or departmental consent. A 26 560 0 1105

**620. Survey of Latin American Literature.** (3) Main currents of Latin American literature from 1500 to 1800. Prerequisite: Span. 300 or departmental consent. A 26 620 0 1105

**621. Survey of Latin American Literature.** (3) Main currents of Latin American literature from 1800 to present. Prerequisite: Span. 300 or departmental consent. A 26 621 0 1105

**622. Special Studies.** (1-4). Topic for study 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 Latin American Literature, (c) Spanish and Latin American culture and civilization, and (d) methods of teaching Spanish in the elementary and secondary schools. Repeatable for credit. Prerequisite: departmental consent. A 26 623 0 1105

**625. Contemporary Latin-American Novel.** (3) Prerequisite: Span. 300 or departmental consent. A 26 625 0 1105

**626. Spanish Civilization.** (3) Intensive study of Spanish culture, including historical and geographical factors in its development and its contributions to world civilization. Portuguese civilization also is considered. A 26 626 0 1105

**627. Latin-American Civilization.** (3) Intensive study of Latin American culture, including the historical and geographical factors in its development and its contributions to world civilization. A 26 627 0 1105

**628. Contemporary Latin-American Theater.** (3) A study of contemporary theater from 1900 to present. Prerequisite: Span. 300 or departmental consent. A 26 628 0 1105

**630. Society and the Artist in Latin America.** (3) Latin American culture, social structure and the role of the artist in modern Latin America. Prerequisite: Span. 300 or departmental consent. A 26 630 0 1105

**631. Latin-American Short Story.** (3) Study of the main writers in contemporary Latin American literature. Prerequisite: Span. 300 or departmental consent. A 26 631 0 1105

**635. Introduction to Romance Linguistics.** (3) Cross-listed as Fren. 635 and Ling. 635. An introduction primarily to the historical phonology and morphology of the Romance languages with particular emphasis on French and Spanish. Prerequisite: departmental consent. A 26 635 0 1105

**720. Theory and Practice for University Teaching.** (2) A course dealing with recent theories of language acquisition and their application to the teaching of Spanish. Required for teaching assistants. Prerequisite: graduate standing. A 26 720 0 1105

**750. Workshop in Spanish.** (2-4). Repeatable for credit. A 26 750 2 1105

### Courses for Graduate Students Only

**801. Spanish Linguistics.** (3) Historical and structural study of the Spanish language. A 26 801 0 1105

**805. Directed Readings.** (1-4). Readings vary according to the student's preparation. Preparation of reports, literary critiques and special projects in linguistics are included. A 26 805 3 1105

**826. Grammar and Stylistics.** (3) Intensive study of advanced grammatical 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) revolution of '98, (g) contemporary novel, (h) 20th century theater, (i) Spanish romanticism, (j) 20th century poetry and (k) literary criticism. A 26 831 9 1105

**832. Seminar in Latin American Literature.** (3) (a) colonial period, (b) contemporary novel, (c) short story, (d) poetry, (e) modernism, (f) essay and (g) theater. A 26 832 9 1105

### Philosophy

The study of philosophy is relevant to all aspects of life and can be pursued fruitfully at many levels. Philosophical thought may direct itself to such diverse topics as the nature of reality, the conditions of knowledge, the justifications for political authority, the reality of subatomic particles, the existence of God, the criteria of aesthetic evaluation, the structure of logical reasoning and the foundations (if any) of morality. Because of the breadth and the philosophic enterprise of philosophy, the study of philosophy can be approached from many directions and need not involve a hierarchy of prerequisites. Philosophy majors pursue many careers—teaching, law, medicine, city management, carpentry and sales. The philosophy department reflects the breadth and diversity of the philosophical enterprise and offers a wide variety of courses.

**Major.** A major requires a minimum of 27 hours of philosophy courses, at least 15 of which must be in courses numbered 300 or above. Each philosophy major must meet with a departmental adviser at least once a semester to plan or review a program of study. These programs are designed in terms of the individual student's interests and future plans. Up to 12 hours of philosophy courses taken before the decision to major in philosophy may count toward a major. Additional hours may be counted with the adviser's consent.
Minor. A minor consists of 15 hours of philosophy courses, selected in consultation with a departmental adviser, that 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 philosophic activity. Through an examination of several basic interpretations of the distinguishing intentional characteristics of 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 100G 0 1509

125Q. Introductory Logic. (3). This course deals with the uses of logical concepts and techniques in the analysis and criticism of 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 125Q 0 1509

129. University Experience. (3). An examination of the structure, process and problems of university education in the contemporary setting. This course attends especially to the personal, moral and spiritual problems and opportunities presented by the modern university experience. It seeks to provide clarification and guidance in understanding the university and in choosing one's own future. A 24 129 0 1509

144Q. Moral Issues. (3). An introduction to philosophical thought about ethics. A number of contemporary moral issues are discussed and various philosophical approaches to their solutions considered. A 24 144Q 0 1509

Upper-Division Courses

300G. Science and the Modern World. (3). The aim of this course is to develop an understanding of the methods and accomplishments of science and how these have affected the way people understand themselves, society and the universe. The approach is both historical, with respect to the re-creation of the prescientific world view and the developments of science, and analytic with respect to understanding the goals, methods and limits of contemporary science. No prerequisite but prior completion of general education requirements in science is desirable. A 24 300G 0 1509

301. Language and Philosophy. (3). Cross-listed as Ling. 301. This course examines the relationships between philosophy and language. It focuses on questions such as: What is the relation between language and thought? Language and the world? What can the study of language contribute to the resolution of philosophical problems? A 24 301 0 1509

303Q. Nineteenth Century Philosophy. (3). A study of selected 19th century philosophers or systems of thought such as Fichte, Schelling, Hegel, Schopenhauer, Marx, Mill, Bradley, Hume, Mill, Berkeley, Leibniz, Kant, Ernst, Nietzsche, Comte, Dilthey, Scheler, Mach, and Husserl. A 24 303Q 0 1509

308. Philosophy of Economics. (3). The objective of this course is to investigate various philosophical issues inherent in economic theory and decision making. Philosophical problems discussed include concepts of rationality, decision theory, economic freedom, economic justice, morality and the methodology and presuppositions of economic inquiry. A 24 308 0 1509

311Q. Philosophy of Law. (3). An introduction to philosophical problems arising in the theory and practice of law. Topics considered include legal systems and their relationship to social systems, the nature of law, the origins of legal systems, the relation of morality and law, the justification of legal systems. The course is designed for the layman and the professional. A 24 311Q 0 1509

318. Early Modern Philosophy. (3). A study of philosophical thought in the 17th century with selections from philosophers such as Descartes, Hobbes, Spinoza, Leibniz, Butler, Hume, Kant, and others. The course attends especially to the transition from the prescientific to the scientific world view and to the methods, goals and world views of the early modern philosophers. A 24 318 0 1509

320. Philosophy of Science. (3). A study of the methods, goals and world views of the sciences with attention to such topics as the structure and evaluation of scientific theories, the nature of explanation, the dynamics of scientific revolutions and the impact of science on human society and values. A 24 320 0 1509

322Q. Formal Logic. (3). Cross-listed as Ling. 322. A study of systems of formal logic including sentential and predicate logic. The use of these systems in the analysis of arguments is emphasized. A 24 322Q 0 1509

327. Philosophy of Health Care. (3). An examination of the philosophical and ethical issues generated by the development and expansion of the health care professions. Topics such as the concept of health and illness, the medical team, professional rights and responsibilities, behavior modification, euthanasia and institutional care are examined. This course is designed for the layman as well as for the medical professional. A 24 327 0 1509

340. Ancient Greek Philosophy. (3). An examination of the development of Greek philosophy in its major philosophical phases, including an exploration of the Milesian and Eleatic traditions, the Socratic and Platonist schools, the Stoics, Socrates, Plato and Aristotle. A 24 340 0 1509

343. Philosophy of Feminism. (3). Cross-listed as Rel. 343. This course examines some of the philosophical issues raised by the feminist movement with emphasis on conceptual and ethical questions. A 24 343 0 1509

346Q. 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 bondage to sin and the problem of evil. A 24 346Q 0 1509

354. Ethics and Computers. (3). A course in ethical applications to the ethical issues which may arise from the use of computers. Attention will be devoted to such specific areas as the moral responsibility of computer professionals for the misuse of a computer system and the rights of persons and society; the moral obligations of a computer professional to clients, employer and society; the conceptual and ethical implications of the development and use of artificial intelligence and expert systems; the legal and social applications of software; and the justification of regulation of the design, use and marketing of computer technology. Prerequisites: junior standing or departmental consent. A 24 354 0 1509

375. Philosophy of the Arts. (3). An intensive examination of one or more philosophical 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 act, art and truth, art and life and the nature and function of art criticism. A 24 375 0 1509

400. Honors Seminar (3). Cross-listed as Hnrs. 400. This is an honors course on a special topic, to be announced. Repeatable for credit up to six hours. Prerequisite: honors student or departmental consent. A 24 400 0 1509

Courses for Graduate/Undergraduate Credit

518. Recent British-American Philosophy. (3). Examination of philosophical ideas and movements in recent British and American philosophy. Movements such as logical positivism, pragmatism, ordinary language philosophy and analytic philosophy are discussed. Readings are selected from figures such as Russell, Wittgenstein, Peirce, Dewey and Quine. A 24 518 0 1509

519. Empiricism. (3). A study of the philosophical views that emphasize sensory experience rather than reasoning as a source of knowledge with particular attention paid to the philosophies of Hobbes, Locke, Berkeley, Hume and Mill. A 24 519 0 1509

540. Theory of Knowledge. (3). A critical examination of the nature of knowledge and of the philosophical problems concerning skepticism; knowledge of the self; material objects; other minds; the past, present and future; universals; and necessary truths. Selections from both classic and recent writings are included. Prerequisite: course in philosophy. A 24 540 0 1509

549. Topics in Ancient Philosophy. (3). In each offering, this course explores one decisive issue in philosophy from the time of Thales through the Stoics. The examination of an issue may confine itself to one period within the total span of ancient philosophy or it may trace the issue throughout the span,
indicating its contemporary treatment. Some of the issues treated are: the nature of what is, the concept of the sacred, the meaning of truth, the relation of invariance and process, the existence of universal standards of thought and conduct, the problem of knowledge, skepticism, the nature of language and the character of philosophical inquiry. A 24 549 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: one course in philosophy. A 24 550 0 1509

555. Philosophy of the Social Sciences. (3). A study of such topics as the relations of social science with natural science and philosophy, methodological problems peculiar to social science, the nature of sound explanation, concepts and constructs and the roles of mathematics and formal theories in social science. A 24 555 0 1509

557. Contemporary European Philosophy. (3). An exploration of a theme, issue, philosopher or movement in contemporary European philosophy. Philosophers considered include such figures as Husserl, Heidegger, Jaspers, Gadamer, Adorno, Bergson, Sartre, Merleau-Ponty, Lacan, Derrida, Foucault and RICOEUR. Philosophical movements examined include such themes as phenomenology, existentialism, structuralism, process philosophy, hermeneutics and Marxism. A 24 557 0 1509

574. Artificial Intelligence and Philosophy. (3). Cross-listed as CS 574. Transfer of ideas between artificial intelligence and philosophy: concepts and techniques of artificial intelligence and their application in philosophy (search, heuristic, problem solving, knowledge representation, learning, discovering); philosophical sources of insight for artificial intelligence in different branches of philosophy. The analogy between minds and computers, "cognition is a computation and the mind is a computer," is contrasted with "the internal features not accessible to computation." The relevance of Godel's theorem and of other results in the domain of computability are discussed in this context. Prerequisites: At least one 300-level course in computer science or philosophy. Math. 243 and five hours toward the major in any one of the physical or biological sciences with grades of C or better or departmental consent. A 24 574 0 1509

585. Studies in a Major Philosopher. (3). A concentrated study of the thought of one major philosopher announced by the instructor when the course is scheduled. Repeatable for credit; Prerequisite: instructor's consent. A 24 585 0 1509

590. Special Studies. (3). Topic for study announced by instructor. Repeatable for credit; Prerequisite: instructor's consent. A 24 590 0 1509

595. 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

850. Directed Readings. (3). Designed for the graduate student desiring independent study and research in an area of special interest. May be repeated for credit. Prerequisite: departmental consent. A 24 850 3 1509

Physics

The Department of Physics offers a flexible and challenging undergraduate program of study leading to the Bachelor of Arts (BA) degree or the Bachelor of Science (BS) degree and a graduate program leading to the Master of Science (MS) degree.

The curriculum of the department includes the traditional core physics courses as well as providing the opportunity for the student to explore areas of individual interest through special projects.

Major. The following courses are required for a physics major: Phys. 213Q–214Q or 313Q–314Q–315Q, 551, 611, 621 and 631–632, Math. 550 and 545, 547 or 651; and five hours of chemistry. For the Bachelor of Arts (BA) degree, two years of Phys. 516 or 517 are required. Six additional hours of upper-division physics are also required. For the Bachelor of Science (BS) degree, four hours of Phys. 516, two hours of Phys. 517, eight additional hours of upper-division physics and five additional hours of chemistry are required. Ten hours of a foreign language also are required for the BS.

Chemical Physics Option. A student majoring in physics may select a chemical physics option. This option consists of the BS or BA requirements in physics, with Phys. 642 chosen as an elective, plus six hours of chemistry beyond the 111-112 sequence, to be chosen from Chem. 545, 546, 641 or 741.

Other Options. Other programs are available which provide the student an opportunity to combine the study of physics with an interest in another area. On an individual basis, students have included interests in astronomy, engineering, geology, computer science, biological sciences and education.

Minor. A minor in physics consists of Phys. 213Q–214Q or 313Q–314Q–315Q–316Q and at least six additional hours of upper-division physics.

Lower-Division Courses

111Q. Introductory Physics. (4). 3R; 3L. A general physics course for liberal arts students and those who have not had physics in high school. Topics include mechanics, heat, electricity and magnetism, wave phenomena and modern physics. Not open to students who can meet prerequisites for Phys. 313Q. Prerequisite: two years of high school algebra or one each of algebra and geometry or equivalent. A 21 111Q 0 1902

131. Physics for the Health Sciences. (3). This course provides a background in basic physics for students in health-related professions. The choice of topics, the emphasis on problem solving and the laboratory applications are directed toward specific uses of physics in the health sciences. Prerequisites: two years of high school algebra or one year each of algebra and geometry or equivalent. A 21 131 0 1902

195Q. Introduction to Modern Astronomy. (3). A survey of astronomy intended for the student with little or no background in science or math. The nature and evolution of the universe and objects in it are considered from the perspective of observation. Individual topics which may be included are: comparison of the planets, stars and black holes, galaxies and quasars, and the expansion of the universe. A 12 195G 0 1911

196. Laboratory in Modern Astronomy. (1). 3L. The application of the techniques and analysis of the data of modern astronomy. This course is intended for the student with some background in the physical sciences. When 196 is completed, 195Q and 196 count as a laboratory science. Field trips are required. Prerequisites: two semesters of high school algebra or the equivalent, or instructor's consent. These courses may be taken concurrently. A 21 196 1 1911

198. Discovery in Astronomy. (3). A selected topic in astronomy is discussed to develop an understanding of the discoveries and problems of modern astronomy. This course is intended primarily for general students with little or no background in a science or math. See course schedule for topic each semester. A 21 198 0 1911

213Q. General College Physics I. (5). 4R; 3L. Mechanics, heat and wave motion. This course is intended for students with a working knowledge of algebra and trigonometry but who have had no calculus. Prerequisite: high school trigonometry or Math. 112. A 21 213Q 1 1902

214Q. General College Physics II. (5). 4R; 3L. Electricity, light and modern physics. This course is 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 214Q 1 1902

223. The Mechanical Universe. (4). A study of the development of mechanics with calculus. The mechanics is applied to planetary motion, harmonic motion and waves as embodied in the specially prepared TV course "The Mechanical Universe." Not a lab course but lab credit can be obtained by departmental arrangement. Prerequisite: high school trigonometry or Math. 112. A 12 223 0 1902

Upper-Division Courses

313Q. University Physics I. (4). The first semester of a calculus-based physics sequence. Mechanics, heat and wave motion are studied. High school physics is recommended as preparation for this course. Natural science majors are required to take this course. Nat. 12 313Q 0 1902

314Q. University Physics II. (4). The second semester of a calculus-based physics sequence. Electricity, magnetism and light are studied. Natural science majors are required to take this course. Nat. 12 314Q 0 1902

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L, means four hours of lecture and two hours of lab.
3150. University Physics Lab I. (1).
3L. Lab experiments in mechanics and heat. Required for natural science majors enrolled in Phys. 313Q. Corequisite: Phys. 313Q. A 21 315Q 0 1902

316Q. University Physics Lab II. (1).

395G. Solar System Astronomy. (3). The sun, major planets and minor bodies of the solar system will be studied, particularly their nature and origin. Both classical ground-based observations and the results of satellite investigations will be discussed. This course is intended primarily for students with little prior contact with science. A 12 395G 0 1911

400. Individual Readings in Physics. (1-2). Repeatable but total credit may not exceed six hours. Prerequisites: 20 hours of physics and departmental consent. A 21 400 3 1902

481. Cooperative Education in Physics. (1-4). Course is designed to complement and enhance the student's academic program by providing an opportunity to apply knowledge gained through the 19th course work to job-related situations. No more than four hours earned in Phys. 481 may be applied toward satisfying the requirements for a major in physics. Offered CR/NC only. Prerequisite: departmental consent. A 21 481 0 1902

Courses for Graduate/Undergraduate Credit

501. Special Studies in Physics for Educators. (1). 3L.* A series of courses covering basic physical concepts which provide physical science background for the elementary education major. Corequisite: service elementary teacher. A 21 501 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 eight credit hours. Corequisite: Phys. 551. A 21 516 1 1902

517. Electronics Laboratory. (2). 1R; 3L.* Experiments in electronics that treat some of the applications of electronics in science, engineering, or technology. Corequisite: use of vacuum tubes, transistors, IC and digital circuits. Prerequisite: Phys. 314Q. A 21 517 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. 214Q or 314Q or departmental consent. Corequisite: Math. 344. A 21 551 0 1902.

555. Physical Optics. (3).* Electromagnetic waves, diffraction and interference. Additional topics may include geometrical optics, coherence, radiation, scattering and optical properties of solids. Prerequisite: Phys. 214Q or 314Q and Math. 344. A 21 555 0 1902

590. Stellar Astrophysics. (3). Course will focus on the application of basic physical principles to the study of stars. Topics will include stellar atmospheres, the structure of stars, formation and evolution of stars, nuclear reactions and nucleosynthesis, unsteady state death of stars and the interstellar medium. Prerequisite: Phys. 551. A 12 590 0 1912.

595. Galactic and Extragalactic Astronomy. (3). Galaxies and the structure of the universe will be primary topic. Topics will include the constituents and dynamics of our galaxy, the characteristics of normal galaxies, active galaxies and quasars, and cosmology. Prerequisite: Phys. 551. A 12 595 0 1912.

601. Individual Readings in Astrophysics. (1-2). Several topics in astronomy and astrophysics are studied in depth. Lectures, independent readings and student projects may be assigned. May be repeated up to six hours. Prerequisites: Phys. 590 or 595 or consent of instructor. A 21 601 3 1912

611. Modern Physics I. (3). Introduction to quantum mechanics, the Schroedinger equation, elementary perturbation theory and the hydrogen atom. Prerequisite: Phys. 551. A 21 611 0 1902


621. Elementary Mechanics I. (3).* Motion of a particle in one and several dimensions, centripetal forces, the harmonic oscillator and the Lagrangian formulation of mechanics. Prerequisites: Phys. 214Q or 314Q and Math. 344 with grades of C or better. A 21 621 0 1902.

625. Electromagnetics. (2). 1R; 4L. Provides a working knowledge of electronic devices and circuits. Corequisite: for the research worker who has little or no background in electronics. Instructor's consent. A 21 625 1 1909.

631. Electricity and Magnetism I. (3).* Direct and alternating currents; electric and magnetic field theory, including an introduction to Maxwell's electromagnetic wave theory. Prerequisites: Phys. 214Q or 314Q and Math. 344 with grades of C or better. A 21 631 0 1902.

632. Electricity and Magnetism II. (3).* A continuation of Phys. 631. Prerequisite: Phys. 631 or instructor's consent. A 21 632 0 1902

671. Thermodynamics. (3).* The laws of thermodynamics, distribution functions, Boltzmann equation, transport phenomena, fluctuations and an introduction to statistical mechanics. Prerequisites: Phys. 214Q or 314Q and Math. 344. 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: Phsy. 611 or departmental consent. A 21 701 0 1902.

714. Theoretical Physics. (3). Cross-listed as Math. 714. A study of mathematical techniques that may be applied to physics and other sciences. Topics typically include power series methods, WKB method, contour integration, integral transforms, Hilbert space, special functions and solutions of partial differential equations. Prerequisites: Math. 550 and Instructor's consent. A 21 714 0 1902.


* Course may not be counted for credit toward a graduate physics major.

Courses for Graduate Students Only

800. Individual Readings. (1-3). Repeatable for credit up to three 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 six hours. Prerequisite: departmental consent. A 21 801 0 1902.

807. Seminar. (1). Review of current periodicals. Readings of senior and faculty research. Repeatable for credit up to two hours. Prerequisite: 20 hours of physics. A 21 807 9 1902.

809. Research. (1-3). Repeatable for credit up to six hours. A 21 809 4 1902.

811. Quantum Mechanics I. (3). The Schroedinger and Heisenberg formulations of quantum mechanics. Applications will include regular potentials, central forces and the harmonic oscillator. Additional topics will be spin, time independent and time dependent perturbation theory. Prerequisites: Phys. 621 and 611, or departmental consent and Math. 550. A 21 811 0 1902.

812. Quantum Mechanics II. (3). Applications of quantum mechanics. Topics which may be included are the WKB approximation, scattering, transformation theory, interaction picture, molecules and relativistic quantum mechanics. Prerequisite: Phys. 811. A 21 812 0 1902.

813. Quantum Mechanics Ill. (2). Applications of quantum mechanics. Topics which may be included are the N-body problem, second quantization, photons, the electromagnetic field, superconductivity and the harmonic oscillator. Additional topics may include spin, time independent and time dependent perturbation theory. Prerequisites: Phys. 621 and 611, or departmental consent and Math. 550. A 21 813 0 1902.

821. Classical Mechanics. (3). The Lagrangian, Hamiltonian and Hamilton-Jacobi methods of mechanics and an introduction to variational calculus. Applications will be selected from central forces, rigid bodies, relativity, small oscillations and continuous media. Prerequisites: Phys. 621 and Math. 550. A 21 821 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 band theory of solids. Prerequisites: Phys. 651 or departmental consent and Math. 550. A 21 881 0 1902.
Related Fields. Because of the changing nature of the social sciences and because of their increasing applicability in both the public and private sectors, political science majors should take appropriate courses in other social sciences, particularly Ecor. 201Q-202Q, statistics and computer science.

Public Administration Option in Political Science. The goal of the public administration option is to prepare students for future entrance into public service. The option meets several needs. Many students in the social sciences plan for careers in the public sector, and there is evidence that public agency heads are demanding more and better qualified students with undergraduate degrees to face the challenges of the future in public service. Although the option emphasizes the preparation of undergraduates for public service, those who plan to enter graduate school in the fields of administration and public policy also will be prepared to undertake a more professional course of study.

A major with a public administration option consists of 36 hours, including Pol. S. 121Q, 345, 444 or 547; one course from Group 3 (Comparative Politics) or Group 4 (International Politics); and the required hours from each area below.


Area B (nine hours)—Pol. S. 321, Introduction to Public Administration, and two of the following: Pol. S. 564, Comparative Public Administration; Pol. S. 580, Administration and the Policy-Making Process; or Pol. S. 587, Theory of Administration

Area C (six hours)—Econ. 201Q, Principles of Economics 1, and three hours in any of the following: Soc. 501, Sociological Statistics; Econ. 231, Introductory Business Statistics; Math. (Statistics) 360Q, Elementary Probability; Psy. 316, Industrial Psychology; or computer science.

Politics—a means of managing conflict and distributing the materials of society to its members—affects everyone because everyone lives in society and conflict exists in every society. This fact led the Greek philosopher Aristotle to observe centuries ago that "man by nature is a political animal." While contemporary political scientists approach the study of politics in a variety of ways, all agree that politics is a central characteristic of human activity.

Political science students at The Wichita State University take courses in at least four of five subject areas: (1) American politics and institutions, (2) comparative politics, (3) international politics, (4) political theory and philosophy and (5) public administration. Most political science majors supplement their curriculum by taking elective hours in the humanities—history, philosophy and literature, for example—and in other social sciences, such as economics, anthropology, sociology and psychology. The department also recommends that students take courses in statistics and computer applications.

Students with political science degrees may become practicing politicians or they may pursue careers in public administration, government service, law, journalism, business or teaching at the secondary or college level.

The political science degree program at Wichita State is designed to accommodate these career interests as well as others. The requirements for the major are flexible enough to permit students to concentrate in one or two areas.

Major. A major consists of Pol. S. 121Q and 30 additional hours, including at least one course in four of the five groups below.

Minor. A minor consists of Pol. S. 121Q and 12 additional hours, at least six of which must be in upper-division courses.

Group 1, Political Theory and Philosophy—Pol. S. 345, 444 or 547

Group 2, American Politics—Pol. S. 315, 316Q, 317, 318, 319, 358Q, 551 or 552Q

Group 3, Comparative Politics—Pol. S. 226Q, 320, 330, 523Q, 524 or 525

Group 4, International Politics—Pol. S. 335Q, 336, 338 or 534

Group 5, Public Policy and Administration—Pol. S. 321, 505, 506, 533, 564, 580 or 587


121Q. 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 121Q 0 2207

150. Political Science Workshop. (1-3). Prerequisite: instructor's consent. A 22 150 2 2207


222. East Asia. (3). Cross-listed as Hist. 222, Rel. 222Q and LAS-i 222Q. A survey of basic topics on China, Korea and Japan, including history, culture, society, philosophy, religion, politics and economics. The course is taught by a team of instructors from several departments. A 22 222Q 0 2207

226Q. Comparative Politics. (3). An analysis of the basic patterns and structures of Western democratic and political systems, transitional systems and totalitarian systems. A 22 226Q 0 2207

232Q. Basic Ideas in Political Theory. (3). The purpose of the course is to show the direct relationship between political philosophy and practical political structures and policies. The political philosophies of six important Western philosophers are examined at an introductory level. Different models of democracy are studied in order to demonstrate the relationship between a set of basic philosophic assumptions and the political society that seems appropriate to that set of assumptions. Finally, one or two major political issues are examined in order to illustrate the various kinds of solutions that may be suggested by different political philosophies. A 22 232Q 0 2207

Upper-Division Courses

315. The Presidency. (3). The presidency focuses upon the evolution of the presidential office, the recruitment of presidents and the nature of presidential power. A 22 315 0 2207

316Q. The Congress. (3). Focuses on the Congress with particular attention to interest articulation at both state and national levels. A 22 316Q 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 political 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
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). 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

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 users of terror; the role of the elites and the masses; evolution and development of the Communist Party of the Soviet Union; leadership selection; treatment of minorities; judicial systems and problems and policies. A 22 330 0 2207

335Q & 336. International Politics and Institutions. (3 & 3). 335Q: Focuses on interaction between actors in the international system. Covers nature of conflict and conflict resolution. Either 335Q or 336, but not both, may be taken for a major in history. 336: Focuses on the role of international organizations in the international system. Emphasis on the United Nations. Some regional organizations are also covered. A 22 335Q 0 2207 & A 22 336 0 2207

337. International Force and Intervention. (3). Course examines the use of force and intervention in the international system. Covers the use of diplomatic and military sur- prise and crisis and the nature of war. Problems interconnected with these early political ideas is a major contribution to understanding subsequent political philosophies. A 22 337 0 2207

345. Classical Medieval Political Theory. (3). The purpose of the course is to examine the beginnings of Western political philosophy through works of Plato and Aristotle. This original body of political ideas dominated the Western world for more than 2,000 years. The changes in emphasis that occurred in this tradition are traced through the Roman Stoics and the religious philosophers of the Middle Ages. An understanding of these early political ideas is a major contribution to understanding subsequent political philosophies. A 22 345 0 2207


358Q. American Political Thought. (3). Consideration of selected topics in the development of political ideas in the United States. A 22 358Q 0 2207

390. Special Topics in Political Science. (1-3). An analysis of selected titles in political science. Prerequisites: senior standing and departmental consent. Content varies depending upon the instructor. Repeatable for credit. A 22 390 0 2207

398. Directed Readings. (1-3). A course designed for exceptional students to meet their needs and deficiencies. Repeatable for credit. Prerequisites: senior standing and departmental consent. A 22 398 0 2207

444. Modern Political Theory. (3). This course continues the study of Western political philosophy beginning with the decisive break with the classical tradition that was marked by the emergence of modern political thought. Major philosophers studied are Hobbes, Locke and Rousseau, who are known as philosophers of the social contract and who exercised a great influence on the creation of the modern political thought. A 22 444 0 2207

481. Cooperative Education in Political Science. (1-3). The course provides the student with practical experience to complement the student's more formal political science curriculum. Student programs must be approved by the department. Offered only. A 22 481 0 2207

Courses for Graduate/Undergraduate Credit

505. The Politics of Health. (3). Cross-listed as HAE 350. This course is 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 Ger 506. This course focuses on the role of the elderly as competitors in the political arena. Prerequisites: the political strengths and weaknesses, the course analyzes the effects of aging on political behavior, strategies of the aging—both individual and collective and the responses of the political system. A 22 506 0 2207

523Q. 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 policy aims, and execution of foreign policy in selected areas. A 22 523Q 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 achieve. A 22 524 0 2207

533. Policy Development in Foreign Relations. (3). The process of U.S. foreign policy making at the State Department and the National Security Council. Particular attention is given to institutional conflict. A 22 533 0 2207

534. Problems in Foreign Policy. (3). Examines domestic and international problems associated with U.S. foreign policy. A 22 534 0 2207

547. Contemporay Political Theory. (3). This course is designed to introduce students to the radically new ideas that emerged in the last century as a result of Darwin's theory of evolution, the doctrine of historicism and the growth of modern science and to explore their impact upon political thought. Although the multiplicity of philosophies makes generalization difficult, most of them draw strength from common sources. Philosophers such as Hans Kelsen, Wilhelm Mart, Frederick Nietzsche and John Dewey are studied. Attention is given to the importance of these new philosophies upon political structures and issues. A 22 547 0 2207

552Q. Civil Liberties. (3). An analysis of the role of the appellate courts—especially the U.S. Supreme Court—in the American political system. Emphasis is placed upon judicial reversal of state and federal legislation, the separation of powers, federalism, the taxing power and the commerce clause. A 22 552Q 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 the 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 22 561 0 2207

564. Comparative Public Administration. (3). A study of the administrative system of selected developed and developing countries. Special attention is given to the various methods and approaches of comparative analysis and to the relationships between administrative institutions and environmental settings. A 22 564 0 2207


587. Administrative Theory and Behavior. (3). A study of organizational theory and the various approaches to the study of organization. A 22 587 0 2207
Courses for Graduate Students Only

810. Seminar in Comparative Government. (3). The comparative study of selected aspects of the politics and institutions of foreign governments. Prerequisite: departmental consent. A 22 810 9 2207

821. The Budgetary Process. (3). Analysis of the development and utilization of the budgetary process in government administration with special attention given to the budget in relation to its role in policy formulation. Prerequisite: departmental consent. A 22 821 9 2207

835. Seminar in International Relations. (3). Analysis of special problems in, and approaches to, the study of international relations. Prerequisite: departmental consent. A 22 835 9 2207

841. Seminar in Urban Politics. (3). An intensive analysis of urban 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, administration, intergovernmental cooperation, affirmative action requirements and service contracting. Prerequisite: Pol. S. 317. A 22 842 9 2214

845. Seminar in Political Theory. (3). Detailed study of the relevant works of a major political philosopher and his/her contribution to contemporary thought. Prerequisite: departmental consent. A 22 845 9 2207

851. Seminar in Public Law and Judicial Behavior. (3). Analysis of special problems in and approaches to the study of legal systems. Emphasis is given to developing the student's awareness of research in the field. Prerequisite: departmental consent. A 22 851 9 2207

855. Seminar in Public Finance Systems. (3). An analytical study of selected topics in the 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). SU/grade only. An intensive applied learning experience supervised by a University department or committee. To receive credit, a student must secure approval of a written report from his/her own department. Prerequisite: departmental consent. A 22 874 2 2207

875. Research Design. (3). SU/grade only. Requires the development of a research design for the thesis. The design must be submitted to a departmental committee for evaluation and approval. Prerequisite: departmental consent. A 22 875 4 2207

876. Thesis. (1-3). A 22 876 4 2207

Psychology

The course of study is designed to provide a breadth of knowledge in the field of psychology. Accordingly, the major requires students to choose courses from foundation areas (Group I); traditional human oriented areas (Group II); and applied areas (Group III). The program is designed to prepare students for postgraduate work in psychology but is flexible enough to accommodate the interests of students who do not intend to pursue graduate study in psychology. Such students may be career oriented (e.g., social work, management training, etc.) or simply have an interest in learning more about why we behave as we do.

Major. The major for the Bachelor of Arts (BA) degree consists of a minimum of 30 hours in psychology, at least nine of which are earned at Wichita State. Psy. 111 Q is a prerequisite for all higher numbered psychology courses. All BA majors are required to take Psy. 111 Q, 401, 411 and 601. In addition, six hours must be taken from each of the groups listed below.

Group One: Psy. 302, 332, 342 Q, 402, 502 Q, 512, 522, 532 or 622
Group Two: Psy. 304 Q, 324 Q, 334 Q, 404, 414, 514, 524, 534, 544 or 704
Group Three: Psy. 316, 336, 406, 416 Q, 516, 526, 536, 546, 556 or 756

Minor. The minor consists of a minimum of 15 hours selected in consultation with the student's major adviser.

Lower-Division Courses

108. Stress and Stress Management. (3). 2R, 2L. Introduction to the theories of stress and a survey of major stress management techniques. Class discussion emphasizes the conceptualization of stress and its social impact which is complemented by stress reduction techniques. The course does not satisfy the University's social science requirement nor does it count for a psychology major. A 23 108 1 2001

111Q. General Psychology. (3). An introduction to the general principles and areas of psychology. Topics include learning, perceiving, thinking, behavioral development, intelligence, personality and abnormalities of behavior. This course is a prerequisite for advanced and specialized courses in psychology. A 23 111 Q 0 2001


Upper-Division Courses

302. Psychology of Learning. (3). Basic principles of how organisms learn are explored to highlight key concepts such as reinforcement and punishment, generalization of behavior across settings and extinction of specific behaviors. Important research, theoretical issues and current trends are discussed. Prerequisite: Psy. 111 Q. A 23 302 0 2002

304Q. Social Psychology. (3). A study of how social behavior is influenced by the behavior and characteristics of others. Topics include attitude formation and change, attribution, interpersonal attraction, impression formation and compliance, as well as the application of social psychological principles to an understanding of prosocial, aggressive and sexual behavior. Prerequisite: Psy. 111 Q. A 23 304 Q 0 2005

316. Industrial Psychology. (3). An introduction to the many roles of scientific psychology in the selection, training, evaluation and development of people in the workplace. Employee morale, job satisfaction, leader behavior, fair employment practices and sources of worker stress are among the topics. Prerequisite: Psy. 111 Q. A 23 316 0 2008

324Q. Psychology of Personality. (3). An examination of psychoanalytic, behavioral, trait and other contemporary theories of human personality. Consideration given to major factors influencing personality, results of research in the area, ways of assessing personality and some of the methods of treating personality disorders. Case studies are presented and discussed. Prerequisite: Psy. 111 Q. A 23 324 Q 0 2001

332. Psychology of Perception. (3). An exploration of current research and theory in perception and sensory processes. Emphasizes how organisms come to perceive and understand their environments with regard to perception of space, form, objects and events. Consideration given to detection and personality factors in perception. Prerequisite: Psy. 111 Q. A 23 332 0 2002

334Q. Developmental Psychology. (3). Cross-listed as Geront. 334Q. Descriptive survey of human development from conception to death with emphasis on the interplay of environmental, genetic and cultural determinants of development. Selected topics may be emphasized and elaborated by demonstrations and class projects. Prerequisite: Psy. 111 Q. A 23 334 Q 0 2000

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of laboratory.
336. Alcohol Use and Abuse. (3). A study of the individual, social and cultural aspects of alcohol use. Both nonproblem and abusive drinking are investigated, as is research on why people drink. Prevention of problems linked to alcohol use, treatment of alcoholism and the needs of special populations. Investigation of combined alcohol and drug abuse as well as study of psychosocial aspects of use of drugs other than alcohol are included. Prerequisite: Psy. 111Q. A 23 336 0 2002

342Q. Psychology of Motivation. (3). The psychological and biological forces leading to goal-directed acts are examined to understand the complexity of influences upon behavior. Some of the motivational topics discussed are reward and punishment, stress, aggression, achievement and the role of the brain structures in influencing organized behavior. Prerequisite: Psy. 111Q. A 23 342Q 0 2002

401. Psychological Statistics. (3). Introduces basic quantitative techniques for the description and measurement of behavior, as well as tests for making decisions regarding the compatibility of data to scientific hypotheses. Probability models covered include the chi square and t tests. Prerequisite: Psy. 111Q and Math. 111 or 112. A 23 401 0 2007

402. Psychology of Consciousness. (3). Consciousness is examined from two perspectives: as a psychological state ranging from coma to "peak experiences" and as a framework for knowledge of the self and the split-brains and dissociated personalities is covered from the second perspective. Prerequisite: Psy. 111Q. A 23 402 0 2001

404. Psychology of Aging. (3). Cross-listed as Geron. 404. An examination of the issues surrounding the adult aging process. Included are topics such as personality and intellectual change, mental health of the elderly and the psychological issues of extending human life. Special emphasis on the strengths of the elderly and prevention of psychological problems of the elderly is provided. Prerequisite: Psy. 111Q. A 23 404 0 2000

406. Introduction to Community Psychology. (3). A review of theoretical and empirical bases of community psychology and community mental health will be provided. Contemporary models of community psychology are presented including the ecological and social action perspectives. Special topics could include social support, self-help, social policy and the prevention of psychosocial problems. Prerequisite: Psy. 111Q. A 23 406 9 2005

411. Research Methods in Psychology. (4). 3R; 3L. Covers the philosophy of research methods, experimental design, appropriate data analysis techniques and historical trends and developments in experimental psychology. The laboratory exposes students to representative experimental techniques in the major subdisciplines of psychology. All students are actively involved in research projects. Prerequisite: Psy. 401. A 23 411 1 2002

414. Child Psychology. (3). Covers psychological development from conception through infancy and childhood. Topics include the development of language, perceptual and cognitive development, emotional-social attachment and socialization. Attention is also given to practical issues of discipline and child rearing. Prerequisite: Psy. 111Q. A 23 414 0 2009

416Q. Psychology and Problems of Society. (3). A study of the special role of psychological theory, research and principles applied to contemporary social issues and problems including such topics as environmental concerns, problems in the schools, substance use, ray gun fear, corporal punishment, sexism, child abuse, juvenile delinquency, aggression, behavioral control, aging, technology, etc. Prerequisite: Psy. 111Q. A 23 416Q 0 2005

426. Psychology of Work. (3). Selects from standard topics of industrial psychology to examine in greater depth the seriousness of job satisfaction problems, effects of technological change, membership in unions, control of productive workers, facts and myths about the working woman and other similar topics. Prerequisite: Psy. 111Q. A 23 426 0 2008

428. Field Work in Psychology. (3). Special projects and practicums under supervision in public and/or private agency settings. Psychological study, observation, service and/or research may be undertaken with prior approval by the department. Repeatable for a maximum of six credit hours, but only three hours may be earned per semester. Offered Cr/NCr only. Prerequisite: A 23 428 2 2005

481. Cooperative Education. (1-3). This course is designed to provide the student with practical experience, under academic supervision, that complements the student's academic program. Consultation with and approval by an appropriate faculty sponsor are necessary. Offered Cr/NCr only. A 23 481 2 2005

Courses for Graduate/Undergraduate Credit

502Q. Comparative Psychology. (3). Psychological and ethological analyses of behavior are compared and contrasted. The evolution and development of behavior are stressed. Major topics include a critique of the instinct doctrine and sociobiological interpretations supplemented with field trips. Prerequisite: one course from Group One. A 23 502Q 0 2001

508. Psychology Tutorial. (3). Selected topics in psychology. Repeatable for a maximum of six hours of credit. Instructor's consent may be required. Check Schedule of Courses. Prerequisite: Psych. 111Q. A 23 508 2 2001

512. Primatology. (3). A survey of the primates (including humans) and their behavior. Topics include principles of evolution and taxonomy, the evolution of behavior, the development of language, learning in the primates and the development of behavior. Prerequisite: Psy. 111Q. A 23 512 0 2002

514. Psychology of Health and Illness. (3). A survey of the relationships between psychology/behavior and physical health and illness. Topics include stress and coping, health habits, medical care, provider-client relationships, hospitalization and prevention. A self-study of lifestyle and behavior in relation to health and illness may be included. Prerequisite: Psy. 111Q. A 23 514 0 2001

516. Drugs and Human Behavior. (3). A survey of the actions and effects of use of legal and illegal psychoactive drugs, and of the use of prescription drugs in the treatment of psychological disorders. Social-cultural, personal and situational determinants and consequences of drug use and abuse will be detailed. Prerequisite: Psy. 111Q. A 23 516 0 2002

522. Biological Psychology. (3). A review of the biological foundations of behavior. Topics include the evolutionary basis of behavior, behavior genetics, a critical analysis of brain-behavior relationships, the role of hormones in behavior and neurochemical correlates of behavior. Prerequisite: Psy. 111Q. A 23 522 0 2010

524. Advanced Psychology of Personality. (3). More intensive treatment of the topics of psychology of personality with special emphasis on contemporary theories, research and application of the psychological study of personality. Prerequisite: Psy. 324Q. A 23 524 9 2001

526. Psychological Testing and Measurement. (3). A critical analysis of the psychological and statistical foundations, test theory and the interpretation of test findings. Several tests representing the areas of intelligence, personality, normal and abnormal psychology, interests, special abilities and aptitudes are studied to illustrate general principles of psychological testing. Prerequisite: Psy. 401. A 23 526 0 2006

532. Psycholinguistics. (3). Cross-listed as Ling. 545. Survey of psychological, linguistic and informational analyses of language. Topics include the performance-competence distinction, the development of speech, animal communication systems and the relation of language to thought. Prerequisite: Psy. 111Q. A 23 532 9 2001


536. Behavior Modification. (3). A study of the basic assumptions, principles and issues of behavioral approach to helping persons with psychological problems. Demonstrations and individualized practice in general helping skills as well as individual projects in applying these skills are included. Prerequisites: Psy. 111Q and instructor's consent. A 23 536 2 2003

544. Abnormal Psychology. (3). An introductory survey of abnormality and its causes. Definitions, causes, types and classifications of abnormal behavior are examined. Attention is given to various theories of abnormality, research evidence and various methods of diagnosis and treatment. Hypotheses regarding prevention of abnormality are presented. Prerequisite: Psy. 324Q. A 23 544 0 2001

546. Practicum in Applied Behavior Analysis and Social Learning. (3). 1R; 4L. Placement in local human service agencies for about eight hours a week for 14 weeks. Under supervision, students assist in the development and delivery of services at the agency site. Repeatable once. Prerequisites: Psy. 326 and instructor's consent. A 23 546 2 2003

556. Introduction to Clinical Psychology. (3). A survey of current ethical, conceptual and research issues involved in the assessment and treatment of psychopathology. Contemporary psychotherapies are reviewed with an emphasis on the relative efficacy of each and the therapeutic mechanisms through which they initiate behavioral change. Prerequisite: Psy. 324Q. A 23 556 0 2003
748. Research and Development in Applied Settings. (3). 2R; 2L. This course is an introduction to computer applications to the behavioral sciences. Included are 1) techniques of analyzing experimental data, 2) statistical applications, 3) interactive computing, 4) computer programming, 5) word processing and 6) other current computer applications. Prerequisites: nine hours in the social sciences. A 23 566 1 2007

801. Systems and Theories in Psychology. (3). An intensive review of systems and theories of psychology. The influences of naturalism, Gestalt psychology, structuralism and others. An attempt is made to develop the logical relations of these theories to each other as well as to consolidate modern viewpoints and practices into a comprehensive system. Prerequisite: 15 hours of psychology or instructor's consent. A 23 601 0 2001

608. Special Investigation. (1-3). Upon consultation with instructor, advanced students with adequate preparation may undertake original research or directed readings in psychological areas. Repeatable for a maximum of six credit hours. Consultation with and approval by an appropriate adviser are required prior to registration. Prerequisites: nine hours in psychology and instructor's consent. A 23 608 4 2001

622. History of Psychology. (3). Traces the development of psychological concepts of psychology from the ancient Greeks through the 19th century. The origins and various views of the body-mind relationship are examined. The influences of naturalistic assumptions and research methods on 20th century psychology are emphasized. Prerequisites: nine hours of psychology or instructor's consent. A 23 622 0 2001

704. Advanced Social Psychology. (3). An intensive review of selected contemporary issues in social psychology. Prerequisite: Psy. 3040. A 23 704 9 2005

728. Seminar in Psychotherapy. (3). Provides an intensive introduction to critical analysis of various theories and methods of psychotherapy, an examination of the efficacy of these therapeutic approaches and a survey of common issues in psychotherapy, such as past, present and outcome, and client and therapist variables in the therapeutic process. Prerequisites: Psy. 111Q and instructor's consent. A 23 728 9 2003

748. Research and Development in Applied Settings. (3). 2R; 2L. An introduction to research and development activities in industry. Lecturer's covers sources of research ideas, funding sources, use of company resources, technical communications, assembling literature, research design and publishing practices. Lab work involves practice in preparing bibliographic and administrative research and presentation, schedules and budgets and analysis of industry research proposals. Prerequisite: 15 hours of psychology or instructor's consent. A 23 748 1 2008

750. Psychology Workshop (1-3). A course of specialized instruction, using various forms of selected topics and areas of psychology. A 23 750 2 2001

755. Aerospace Psychology. (3). Exploration of the many roles of scientific psychology in aviation and aerospace science. Surveys the research and literature in areas such as psychophysiological aspects of flight, environmental effects on human performance in aviation, aircrew skill requirements and training, pilot workload, cockpit control and display systems and aviation safety. Prerequisite: 15 hours of psychology or instructor's consent. A 23 756 0 2008

Courses for Graduate Students Only

802. Seminar in Clinical Psychology. (3). Intensive study of clinical theory, research and practice. Included are such issues as an intensive examination of psychotherapeutic approaches, issues in assessment, research in clinical psychology, appropriate research designs in clinical science, client rights, legal and ethical concerns, licensure and certification and related topics. Prerequisite: instructor's consent. A 23 802 9 2003

804. Seminar in Behavioral Development. (3). A critical analysis of the concept of development and the theories of behavioral development. Course begins with a review of the concept of integrative levels and proceeds to a discussion of modern evolutionary thought. The concept of development is examined from psychological, biological and anthropological perspectives. Finally, various theories of human development are critically evaluated. Prerequisite: instructor's consent. A 23 804 9 2003

815. Clinical Research and Practice. (3). Designed to give the student further experience in clinical skills and clinical research. Students are supervised in their clinical work with individual clients seen through the departmental clinic. May be taken for a maximum of six credit hours. Prerequisite: instructor's consent. A 23 815 9 2003

820. Graduate Research Seminar. (3). Analysis and explanation of the assumptions and experimental methodologies of the types of research that lead to discovery of testing of scientific laws. Although not limited to psychology, special emphasis is given to laws illustrating the control of individual behavior. Prerequisite: instructor's consent. A 23 820 9 2001

826. Seminar in Behavior Therapy. (4). 3R; 3L. A review of the theoretical and empirical support for specific behavior therapeutic practices. Approaches may include systematic desensitization, flooding, contingency management techniques and aversive therapies. The interface between behavioral assessment and clinical practice is also discussed. Prerequisite: instructor's consent. A 23 826 9 2003

830. Seminar in Community Psychology. (3). Comprehensive overview of theory, research and practice in the emerging field of community psychology from the perspective of the general systems theory. Topics include prevention, consultation, community mental health and a community vs. individual perspective to human and social problems. Prerequisite: instructor's consent. A 23 830 9 2005

831. Research in Community Psychology. (3). An introduction to the perspective of community psychology specifically concerning the applied methods of needs assessment and program evaluation. Special emphasis on how to use applied research methods in the practice of community psychology and organizational change and social reform. 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, community development, paramedical training and preventative programs in community agencies and organizations. Repeatable for a maximum of six credit hours. Prerequisites: Psyc 830 and 831 and instructor's consent. A 23 832 2 2005

853. 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 23 853 0 2005

884. Seminar in Consultation and Counseling. (3). The theories and techniques of consultation, counseling and interviewing are examined and applied to individuals, organizations and systems. Prerequisite: instructor's consent. A 23 884 9 2005

843. Seminar in Personality and Psychosocial Disorders. (3). Relationship of normal behavior development and maladjustment and also a critical review of theory and research. Prerequisite: instructor's consent. A 23 843 9 2003

845. Development of Abnormal Behavior. (3). A consideration of the descriptive characteristics of abnormal behavior, a developmental perspective. The ecological, social, psychological, biological and methodological contexts and causes of such behavior are considered. Implications for preventative and clinical interventions will be discussed. Prerequisite: instructor's consent. A 23 845 9 2003

852. Univariate Research Design. (3). Analysis of variance for various single and multi-factor designs, analysis of covariance, multiple comparisons and other selected topics. Also included is the use of computer program packages for the analysis of data. The course emphasizes psychological research in laboratory and applied settings. Prerequisite: Psyc. 842 or instructor's consent. A 23 852 9 2001

853. Multivariate Research Design. (3). Multivariate methods, techniques and designs in psychological research including including multiple regression, discriminant analysis, profile similarity, factor analysis and other selected topics. Also included are the use of computer program packages for the analysis of data. The course emphasizes research in applied and field settings. Prerequisite: Psyc. 842 or instructor's consent. A 23 853 9 2001

855. Seminar in Psychology of Learning. (3). Intensive study of theory and research in learning processes. Included are the study of principles of individual behavior and some of the variables of which it is a function as illustrated by respondent and operant conditioning along with some areas of application.
Prerequisites: Psy. 302 and instructor's consent. A 23 865 9 2002

870. Seminar in Current Developments. (3). Intensive study of current issues, techniques, research, and application. Repeatable for different topics for a maximum of six hours. Prerequisite: instructor's consent. A 23 870 9 2001

872. Seminar in Comparative Psychology. (3). Intensive study of psychological and anthropological research and theories of behavior. The course is oriented around the evolution and development of behavior. Topics include a review of the concept of integrative levels in psychology. Prerequisites: Psy 5020 and instructor's consent. A 23 872 9 2002


885. Seminar in Perception. (3). Intensive study in theory and research in perceptual processes. Prerequisites: Psy. 332, or equivalent, and instructor's consent. A 23 885 9 2001

Public Administration

Students planning to continue their education in pursuit of a Master of Public Administration degree may want to structure their undergraduate degree plans to include program prerequisites. The Master of Public Administration program has a specified list of prerequisites that is considered important to the information foundation of the professional administrator. Students can be accepted in a "full-standing" status prior to the completion of program prerequisites, but the deficiencies must be overcome within the first academic year. The Master of Public Administration degree consists of 39 graduate hours and prerequisites in the areas of microeconomic principles, public administration and statistics.

The Master of Public Administration program uses an important blending of academic foundations and real world application. Since the program is housed in the Hugo Wall Center for Urban Studies, faculty and students are able to test immediately theoretical positions through state and local government research and application. This effort to blend theory and application is further enhanced through adjunct faculty from state and local government.

The foundation prerequisite integrating theory and application comes in the form of program completion options. Students have opportunities for internships with national, state and local government. Students with well-established career paths can tailor a portion of their course work to match their professional needs and may elect to complete the program through an applied research project which addresses an issue of professional concern.

The degree is made up of three elements—the core curriculum, an area of specialization and a completion option.

The courses listed below constitute the core curriculum and completion option requirements for all Masters of Public Administration candidates. Students may develop a specialization in one of three areas: management, financial management or policy analysis. The remainder of the program can be structured to match the career aspirations of the student using course offerings from selected University departments.

Courses for Graduate/Undergraduate Credit

625. Computer Applications for Public Policy. (3). Course familiarizes students with major types of software applications for IBM compatible microcomputers and their use in public policy analysis. Prerequisite: enrollment in MPA program or sponsorship by local government. P 13 625 0 2214

700. Urban Affairs. (3). A study of the policy issues faced by local government in an urban setting from a multidisciplinary point of view. Prerequisite: enrollment in urban affairs program or instructor's consent. P 13 700 0 2214

702. Research Methods in Public Administration. (3). This course is designed to acquaint the student with applied public policy research methods. Emphasis is upon locating, collecting, appraising and utilizing both primary and secondary sources of data from the type used in policy planning and administrative research. Students must complete several short research projects. Prerequisite: enrollment in MPA program or instructor's consent. P 13 702 4 2214

710. Scope of Public Administration. (3). Cross-listed as Pol. S. 710. Review of the scope of the field of public administration including a survey of key concepts and schools of thought underlying the field and identification of issues shaping the future development of the field. P 13 710 0 2214

720. Urban Systems. (3). Cross-listed as IE 720. This course develops the principles of systems analysis and the tools by which these principles can be applied. Example applications are taken from urban problems. Emphasis is on the development of model formulation and solution techniques. Computer techniques are developed in class as necessary. Prerequisite: instructor's consent. P 13 720 0 2214

730. Decision Making. (3). Cross-listed as Mgmt. 680. Course includes theories of 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 method development and analysis and utilization of quantitative tools in decision making. Prerequisite: instructor's consent. P 13 730 0 2214

740. Policy Evaluation. (3). This course is designed to assist public sector monitoring and control of program and service delivery quality. The social sciences offer a variety of research tools and methods that have management feedback applications which are appropriate for evaluating performance. Prerequisite: instructor's consent. P 13 740 0 2214

755. Special Topics in Urban Affairs. (3). Provides students with an opportunity to engage in advanced study in urban topics that are of immediate concern and arise only occasionally. The content varies with issues that arise, student needs and faculty expertise. Directed to the Master of Public Administration student. May be repeated if topics are different. Prerequisite: instructor's consent. P 13 755 0 2214

761. State and Local Financial Systems. (3). Course deals with selected aspects of state and local government financial management. Introduction to fund accounting, custody of government services, capital budgeting and asset management. P 13 761 0 2214

770. The Environment of Public Administration. (3). Course surveys the political and economic institutions that underlie the practice of public administration. Topics include political systems, constitutional authority, legislative process, intergovernmental relations, the price system, market failure, government regulation, public finance and public choice. Prerequisites: Pol. S. 321 and Econ. 202. P 13 770 0 2214

Courses for Graduate Students Only

875-876. Thesis. (3-3). Prerequisite: advisor's consent. P 13 875 0 2214; P 13 876 0 2214

890. 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 three to 12 months. P 13 890 2 2214

899. Applied Research Paper. (3). The applied research paper under the direction of a faculty committee is designed to develop and measure competency in the areas of writing, research and policy analysis. Each paper addresses a policy relevant question and the delivery of a finished product with policy application. This course is to be taken in the last semester of course work. P 13 898 4 2214

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 an introduction to the study of religion. The Bachelor of Arts degree in religion was phased out beginning in 1987. However, students presently enrolled in the program will be accommodated. An emphasis in religion is available through the general studies program.

Students contemplating a major or minor in religion should 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.** The Department of Religion offers two options for a major. Option one is designed for the ordinary major. This option requires a minimum of 30 hours. A maximum of six hours may be taken at the 100 level. Option two is designed for students who choose religion as a second major. This option requires a minimum of 24 hours. A maximum of six hours may be taken at the 100 level.

**Distribution.** For both majors at least nine hours must be selected from "traditions" courses, three from comparative or theory courses and three from constructive courses. For an identification of these courses see the religion department advising coordinator.

**Minor.** A minor in religion requires a minimum of 15 hours. A maximum of six may be taken at the 100 level.

### Lower-Division Courses

110Q. Old Testament. (3). An introduction to the literature, history and religion of the Old Testament in the light of modern scholarship. A 15 110Q 0 1510


120Q. 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 120Q 0 1510

125. World of the Bible. (3). This course seeks to understand the Bible within its geographical, historical and religious context— the polytheistic world of the ancient Near Eastern and Mediterranean civilizations of Babylon, Assyria, Egypt, Persia, Greece and Rome from the period of the patriarchs to the rise of Christianity. Special attention is paid to similarities and differences between Biblical ideology and views current in neighboring religious traditions. A 15 125 0 1510

127. Magic, Witchcraft and Religion. (3). Cross-listed as Anth. 127. 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 14 127 0 1510

130Q. Introduction to Religion. (3). An introduction to the major religious traditions and problems, both Eastern and Western, with some emphasis on the methods used in the study of religion. A 15 130Q 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 the nature of the 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

150. Workshop in Religion. (2-4). A 15 150 0 1510

210. Current Religious Issues. (3). A critical study of contemporary issues in the West with attention to religious factors. The relationship of religion to such topics as race, war, secularism, population explosion and politics is considered. A 15 210 0 1510

215. The Meaning of Death. (3). An exploration of the images, interpretations and practices that constitute the response to death in major religious traditions. A 15 215 0 1510

222Q. East Asia. (3). Cross-listed as LAS-I 222Q, Hist. 222, Pol. S 222Q. A survey of basic topics on China, Korea and Japan, including history, political and economic concepts, religion, politics and economics. The course is taught by a team of instructors from several departments. A 15 222Q 0 1510

223. Hinduism and Buddhism. (3). Hinduism and Buddhism are closely related, both arising out of the epic cultural period in the history of India's ancient Vedic tradition. The world view from which they arise is sharply different from that which has been characteristic of the West; one of its consequences has been the direct investigation of consciousness by sophisticated meditation techniques, a type of religiousity for which the psychic, the occult, the astral, is the subject of modern non-Historical investigation. Topics include psychic out-of-body states, ESP, clairvoyance, telepathy, atheric bodies in Hinduism and the Tibetan Bonpos. Lectures, discussions and student reports. Visits to persons with expertise in psychic reading, out-of-body states, Kirlian photography and ESP. A 15 226Q 0 1510

229Q. 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 in contemporary trends and problems are explored. A 15 229Q 0 1510

225. Jesus. (3). There have been varied responses to and multiple interpretations of the life and teaching of Jesus. This course examines the development and function of traditions about Jesus in historical, extrabiblical and more recent, popular sources. A 15 225 0 1510

240. Religion in America. (3). A survey of the beliefs, practices and issues current in major American religious bodies with some attention to the issues raised by the beginnings of American life such as the Black Church, Christian Science and the Latter Day Saints. A 15 240 0 1510

245. Islam. (3). The religion in its geographical, social, political and cultural context, both Arab and non-Arab. A 15 245 0 1510

250Q. Eastern Religions. (3). An introduction to the religions of India and China. Religions studied and contrasted include Hinduism, Buddhism, Jainism, Taoism and Confucianism. An attempt is made to understand the religious life and texts of these ancient and dynamic cultures from the vantage point of the believers themselves. A 15 250Q 0 1510

255. Zen and Taoism. (3). Zen is a form of Buddhism that emphasizes spontaneity and the ultimate of the here and now, employing startling nonintellectualist methods to free minds of the routine world of distractions, plurality and linear time. It represents a vision that is at once Buddhist and deep Chinese; its most distinctive features may in fact best understood as a Buddhist development of ideas, values and orientations found in China's ancient Taoist tradition. The Taoist view of the universe as a harmonious organic unity in which man fittingly participates by selfless spontaneity rather than calculated intervention is radicalized in Zen; at the same time, it is the Taoist sensibility that leads to the Zen departure from more traditional Buddhist approaches to enlightenment. This course traces these developments, beginning with a consideration of Taoism and then tracing the transformation of Buddhism in China to its culmination in the unique methods and teachings of Zen. A 15 255 0 1510

260Q. Psychology and Religion. (3). Spiritual traditions have everywhere and at most times appeared in a triple world: natural, divine and intermediate. The immediate world of the psychic, the occult, the astral, is the subject of modern non-Historical investigation. Topics include psychic out-of-body states, ESP, clairvoyance, telepathy, atheric bodies in Hinduism and the Tibetan Bonpos. Lectures, discussions and student reports. Visits to persons with expertise in psychic reading, out-of-body states, Kirlian photography and ESP. A 15 260Q 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 approval. A 15 280 0 1510

281. Cooperative Education. (1-4). Offered on a C/N/C basis. A 15 281 2 1510

### Upper-Division Courses

311. Old Testament Topics. (3). An indepth study of a major facet of the religion of the Hebrew Bible, such as prophecy, eschatology, covenant, prayer, historiosophy and wisdom. A 15 311 0 1510

321. New Testament Topics. (3). An indepth study of a major facet of the religion of the New Testament, such as the synoptic tradition, Johannine theology, Pauline theology, apocalyptic and canonization. A 15 321 0 1510

323. Protestantism. (3). This course traces the development of the Protestant Christian tradition and analyzes its distinctive themes. After a historical survey of this family of Christianity, the course examines distinctive Protestant themes, such as justification by faith, the primacy of individual conscience and the primacy of scripture, integrating them with current phenomena. A 15 323 0 1510

331. Modern Protestant Theologians. (3). Cross-listed as Religion 331. Protestant theologians in the 19th and 20th centuries responded to modern thought. Includes selections from such theologians as Schleiermacher, Troeltsch, Kierkegaard, Barth, Buttermann, H.R. Niebuhr, Reinhold Niebuhr and Tillich. A 15 331 0 1510

333Q. Women and Religion. (3). Crosslisted as Wom. S. 333. An examination of past and present images and roles of women in 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 15.333Q 0 1510

346. Philosophy of Religion. (3). Cross-listed as Phil. 346Q. A 15 346 0 1510

364. Zionism and Israel. (3). An examination of the national element in Judaism and the movement that has arisen in relationship to this nationalism in the 19th and 20th centuries. The course concludes with an investigation into the relationship between Zionist ideals and the modern state of Israel. A 15 364 0 1510

410Q. 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 410Q 0 1510

419. Modern Atheists. (3). An examination and critical evaluation of some of the seminal critiques of religion in general and Christianity in particular that have been produced in the modern world. Includes selections from such figures as Spinoza, Voltaire, Feuerbach, Marx, Nietzsche, Freud and Camus. A 15 419 0 1510

421. Sociology of Religion. (3). A 15 421 0 1510

446. Violence. (3). A critical examination of the relationship between religion and violence as expressed in war, revolution, criminality and interpersonal relationships. Special attention is given to the ways religions have justified, tried to limit or ameliorate violence. A 15 446 0 1510

466. Meditation and Spiritual Growth. (3). The course focuses on three interrelated topics: (1) biofeedback and meditation; (2) spiritual disciplines such as prayer, contemplation, fasting and service in religious traditions; and (3) selected personal growth disciplines that appear in the contemporary human potential movement. A 15 466 0 1510

476. The Reformation. (3). Cross-listed as Hist. 576. A 15 476 0 1510

480. Special Studies. (3). A concentrated study of a theologian, a theorist of religion or a religious issue announced by the instructor when the course is scheduled. Repeatable for credit. Prerequisite: instructor's consent. A 15 480 0 1510

481. Cooperative Education. (1-4). Offered on a Credit/No Credit basis. A 15 481 2 1510

490. Independent Work. (1-3). Designed for the student who is capable of doing advanced independent work in a specialized area of the study of religion that is not formally offered by the department. Repeatable for credit. Prerequisite: departmental consent. A 15 490 3 1510

Courses for Graduate/Undergraduate Credit

750. Workshop in Religion. (2-4). A 15 750 0 1510

790. Independent Study. (1-3). Designed for the student who is capable of doing graduate work in a specialized area of the study of religion that is not formally offered by the department. Repeatable for credit. A 15 790 0 1510

Sociology/Social Work

A major in sociology provides students with an understanding of human behavior in personal relationships as the family and friendships and how human behavior is affected by larger societal influences such as the economy, bureaucracies and social problems. This understanding is useful in such fields as human services, business and law.

Students may choose the standard major which allows for personally tailored specialization, or they may elect to enroll in the emphasis in human development which has a more applied focus. Both programs prepare students to pursue a career upon graduation and/or enter a graduate program in sociology.

Major: A major in sociology consists of at least 30 hours, including:

- Soc. 111Q, Introduction to Sociology (3 hours)
- Soc. 212, Introduction to Social Research (3 hours)
- Soc. 501, Sociological Statistics (3 hours)
- Soc. 510, Field Research Methods, or Soc. 511, Applied Quantitative Research (3 hours)
- Soc. 645, History of Sociological Theory, or Soc. 646, Principles and Concepts (3 hours)

Certain courses in related departments that meet the particular needs of the students and are approved by their advisers may be counted toward a sociology major. No more than six hours of such courses may be included. With the exception of Sc.Wk. 200Q and 500, social work courses do not count toward the major.

Minor: A minor in sociology consists of at least 15 hours, including:

1. Soc. 111Q, Introduction to Sociology (3 hours), and
2. A minimum of six hours of upper-division courses (500-level and above).

No social work courses may be counted toward a minor.

Emphasis in Human Social Development. Students in sociology may complete a special emphasis in human social development. Courses included in this emphasis are:

Required Core (15 hours)

- Soc. 111Q, Introduction to Sociology (3 hours)
- Soc. 212, Introduction to Social Research (3 hours)
- Soc. 501, Sociological Statistics (3 hours)
- Soc. 510, Field Research Methods, or Soc. 511, Applied Quantitative Research (3 hours)

Soc. 645, History of Sociological Theory, or Soc. 646, Principles and Concepts of Sociology (3 hours)

Option Courses (12 hours)

- Soc. 300, Social Stages of Life (3 hours)
- Soc. 316, The American Male, or Soc. 516, Sociology of Sex Roles (3 hours)
- Soc. 315Q, Courtship and Marriage, or Soc. 515, Sociology of the Family (3 hours)

Sociology Electives (3 hours)

- Soc. 315Q, 316, 515 or 516 when not counted as part of the option courses.

Any other courses in sociology may also be counted toward the emphasis with adviser's consent.

Students are encouraged to complete their distributional requirements by taking related courses such as Sc.Wk. 340Q and Rel. 215 as well as courses in related fields such as instructional services, women's studies and anthropology.

Sociology

Lower-Division Courses

100G. Sociology and Everyday Life. (3). Relates current sociological thought to everyday life experiences. The underlying assumption is that the discipline of sociology can effectively broaden the perspective of individuals and assist them in understanding the organization of social events facing them every day. A wide range of topics are illuminated: family relations, religion, work relations, recreational and leisure activities, education experiences, child and adult socialization, interpersonal relations in public and private settings, urban/rural living and 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 100G 0 2208

111Q. Introduction to Sociology. (3). Introduction to basic concepts, propositions and theoretical approaches of sociology, including elementary methods of studying social phenomena. This course serves as the basic course for students who intend to take additional courses in the field. A 25 111Q 0 2208

212. Introduction to Social Research. (3). A survey of the many research techniques found in sociology and related fields. This course stresses conceptual understanding of all phases of the research process. Prerequisite: Soc. 111Q. A 25 212 0 2208

220Q. Contemporary Social Problems. (3). An analysis of contemporary American social problems with an emphasis on urban social problems. A 25 220Q 0 2208

Upper-Division Courses

300. Social Stages of Life. (3). This course examines the development and maturation of the social self through the various stages of life, i.e., childhood, adolescence, early adulthood, middle age and old age. Topics range from dating and marriage to the mid-life crisis. Attention is given to the various stages of adult life and how the interplay of social
and historical events with personal experiences affects the self and relations with others. Prerequisite: Soc. 111Q. A 25 300 0 2208

301. Computers and Society. (3). The course has two major objectives: (1) to examine the interactions between humans and microcomputers and (2) to study the effect of microcomputers upon social interaction and stratification within society. In particular, the course focuses upon the work setting and the family. Some of the topics covered include new social roles (programmer, hacker, the cyberphobic, the cyberphilic); the computer as a family member; the computer as a power vendor in the work setting; computer deviance and the computer and the disadvantage. A cross-cultural and historical perspective is utilized where appropriate. A 25 301 0 2208

310Q. Courtship and Marriage. (3). The emphasis is on courtship and marriage processes as they exist in the United States today. The course is designed to aid students in understanding sociological perspective of the courtship process through an examination of social class, sex roles, dating and human sexuality. Marital interaction, patterns of fertility and the concept of marriage constitute the emphasis for the latter half of the course. A 25 3150 Q 2208

316. The American Male. (3). Cross-listed as Wom. S 316. The male role in America is examined from a variety of sociological perspectives and within particular settings, for example, work, family and leisure. Other relevant topics are socialization, intimacy and adult developmental stages and crises. Changing male roles produced by strains and conflicts in American society are discussed. A 25 316 0 2208

318. Environmental Sociology. (3). Explores relationships between humans and their environment. Particularly emphasized are social variations in environment usage, effects of overpopulation, resource utilization, pollution and solutions to environmental problems. A 25 318 0 2208

322. Deviant Behavior. (3). The structure, dynamics and etiology of those behavior systems that are integrated around systematic violations of the control norms. Competing theories are presented and evaluated within the context of the assumption that man is a social product. Prerequisite: Soc. 111Q. A 25 322 0 2208

325. Parenting. (3). The role of parenting in American society is examined from a number of different perspectives. The focus is on the major developmental changes facing couples as they move through the family life cycle. Among the topics covered are the decision to have children, remaining childless, the transition into parenthood, parent-infant relationship, parenting and school-age children and the transition from active parenthood. Other topics discussed include single parents, divorce, step-parenting and dual-career parent relationships. Several different parenting techniques and styles are discussed as well. A 25 325 0 2208

330Q. Social Inequality. (3). An analysis of status, class and caste in various societies, especially in American society. The relationship of social inequality to various social institutions is also included. Prerequisite: Soc. 111Q. A 25 330Q 0 2208

331. Population. (3). The size, composition, distribution and recent trends in the population of the world and the United States and the relation of population to world problems. Prerequisite: Soc. 111Q. A 25 331 0 2208

332Q. Sociology of the Future. (3). The future is viewed within the sociological perspective of man and possible alternatives. A body of literature is presented including theory and field studies of alternative social outcomes and what indicators are presently available as options for social planners and social critics, as well as the general citizenry. Prerequisite: Soc. 111Q or 220Q. A 25 333Q 0 2208

334. 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. 111Q. A 25 334 0 2208

335. Sociology of Occupations and Organizations. (3). The work group as a social setting. Analysis of the workplace and social factors affecting the worker. A comparative approach to the study of occupations and work settings is used and worker troubles and tensions are highlighted. Prerequisite: Soc. 111Q. A 25 335 0 2208

338Q. Health and Lifestyle. (3). Views health as a social characteristic which is defined and influenced by social processes. Studies the social resources for health which exist in social norms, relationships and networks. Variables in personal health practices are identified according to characteristics such as social class and marital status. Considerations changing social standards for health and the growth of poor health. Socially created risks to health and organized efforts to change unhealthy environments are examined. The medicalization of society is investigated. Prerequisite: Soc. 111Q. A 25 338Q 0 2208

350. Social Interaction. (3). The course studies the effect groups have on individuals. Primary focus is given to the symbolic interactionist perspective in sociology. The goal of the course is for students to understand how social interaction influences their daily activities. Topics covered include the meaning and importance of the symbol; the nature and development of self; social roles and their influence on individuals; and the social construction of society. Prerequisite: Soc. 111Q. A 25 350 0 2208

481. Cooperative Education in Sociology. (1-4). Course designed to provide the student with practical experience, under academic supervision, that complements the student’s academic program. Consultation with and approval by an appropriate faculty sponsor are necessary. Cr/NCR only. Prerequisite: instructor’s consent. A 25 481 0 2208

Courses for Graduate/Undergraduate Credit

501. Sociological Statistics. (3). Generally offered only in the fall semester. Application of descriptive and inferential statistics to social research. Includes such topics as measures of central tendency, dispersion and association, simple linear regression, hypothesis testing and analysis of variance. Prerequisites: Soc. 111Q and Math. 111, 310L or equivalent. A 25 501 0 2208

510. Field Research Methods. (3). An examination of various qualitative research tools and techniques used by sociologists. As part of the learning experience students are involved in direct field observation in natural social environments. Prerequisite: Soc. 111Q. A 25 510 0 2208

511. Applied Quantitative Research. (3). An examination of the survey as a tool used to address sociological questions. Topics include survey design, sampling, data collection techniques and interpretation of results. Students gain experience in designing and administering surveys. Prerequisite: Soc. 212. A 25 511 0 2208

513. Sociology of Aging. (3). Cross-listed as Geron. 513. Analysis of the social dimensions of old age, including changing demographic structure and role changes and their impact on society. Prerequisite: Soc. 111Q. A 25 513 0 2208

515. Sociology of the Family. (3). Analysis of American family behavior, including the selection of marriage partners, the husband-wife and parent-child relationships and the role of family members in the selection of marriage partners, the husband-wife and parent-child relationships and the role of family members. Prerequisite: Soc. 111Q. A 25 515 0 2208

516. Sociology of Sex Roles. (3). Cross-listed as Wom S 516. A course analyzing the institutional sources of men’s and woman’s roles, the sources of changes in these roles, the consequent ambiguities and conflicts. Prerequisite: Soc. 111Q. A 25 516 0 2208

517. Intimate Relations. (3). This course is designed to examine the social dimensions of intimacy. The course includes an analysis of intimacy in different types of relationships, i.e., romantic, friendships, marriage. Theory and research in the area are reviewed with a special focus on the place of intimacy in social interaction. Prerequisite: Soc. 111Q. A 25 517 0 2208

523. Sociology of Law. (3). The study of law and legal institutions within their social context. Prerequisite: Soc. 111Q. A 25 523 0 2208

526. Political Sociology. (3). Social basis and consequences of political behavior. Also included are the study of power and authority, problems in political maintenance of viable democratic political structures and bureaucratic organization and power. Prerequisite: Soc. 111Q. A 25 526 0 2208

527. Violence and Social Change. (3). The analysis of the causal processes and functions of social change, i.e., revolutionary, insurrectionary and protest movements. The course includes an analysis of consequences for social change. Prerequisite: Soc. 111Q. A 25 527 0 2208

534. Urban Sociology. (3). Urban population, organization and institutions and programs of city planning. Prerequisite: Soc. 111Q. A 25 534 0 2208

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. Emphasis upon the consequences of social and the service professions. Prerequisite: Soc. 111Q. A 25 537 0 2208

538. Medical Sociology. (3). 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 the impact of mental illness on the health professions. Prerequisite: Soc. 111Q. A 25 538 0 2208
Cross-listed

Descriptive and analytical approach to the practice of social work.

FAIRMOUNT COLLEGE/SOCIOLOGY 191

at least 43 hours (34 hours in social work courses and nine hours in related departments) as follows: Sc.Wk. 200Q, 201, 500, 502, 550, 560, 601, 602, 604 and 605. This required curriculum includes nine hours in field instruction (practicum) courses: Sc.Wk. 602 and 605. Requirements in related departments include Soc. 212 and six hours from a list of social and behavioral science courses approved by the social work faculty and selected in consultation with a social work adviser.

Minor. A minor in social work requires at least 19 hours in social work courses as follows: Sc.Wk. 100Q, 200Q, 201, 500, 560 and 570. This required curriculum includes four hours in the internship course Sc.Wk. 570.

Lower-Division Courses

100Q. Explorations in the Helping Professions. (3). An introduction to the helping professions as they relate to the whole person. This multidisciplinary course emphasizes the common helping processes of each profession, how they developed and how they differentially relate to human problems.

A 25 100Q 2 2104


200Q. Understanding Social Welfare. (3). Introduction to a broad spectrum of community services with emphasis on public and private systems which address individual, family and group needs. The relations of area services to larger social welfare institutions and to cultural heritage are systematically examined, including current needs, policy trends, current issues and the normative aspects of determining how these needs should be met. It includes the development of social work as a profession: the holistic approach and multilevel interventions used in practice; and the current trends in direct social services.

Prerequisites: Soc. 111Q and Psy. 111Q. A 25 200Q 2 2104

201. Introduction to Social Work Practice. (3). Introduction to the practice of social work. Includes development of social work as a profession: the holistic approach and multilevel intervention strategies used in practice; the current trends in direct social services. Prerequisites: Soc. 111Q and Psy. 111Q. A 25 201 2 2104

340Q. Human Sexuality. (3). Cross-listed with Wom.S. 340. Provides a forum for informed and critical discussion and analysis of the research and current scientific literature dealing with the psycho-social 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 25 340Q 0 0506

Courses for Graduate/Undergraduate Credit

500. Social Welfare Policy and Services I. (3). Descriptive and analytical approach to the social welfare system, emphasizing its historical, structural and value bases. Alternative program strategies of meeting individual and group needs are included. Prerequisites: Sc.Wk. 200Q and Soc. 212. A 25 500 0 2104

Courses for Graduate Students Only

800. Research Methods in Sociology. (3). The application of research methods to sociological problems. Topics include research design, sampling, data collection techniques, computational analysis of data, scaling and report writing. Students are expected to design their own research projects. Prerequisites: Soc. 510 or 511 and departmental consent. A 25 800 9 2208

815. Seminar on the Family. (3). Review of recent research on the family and the theoretical implication thereof. Prerequisite: Soc. 515 or departmental consent. A 25 815 9 2208

820. Seminar in Social Movements. (3). Analysis of the elements in social movements as factors in social and cultural change. Prerequisite: departmental consent. A 25 820 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. Prerequisite: departmental consent. A 25 822 9 2208

825. Seminar in Organizational Analysis. (3). Exploration of selected problems in organizational theory based on major theoretical and empirical approaches, both classical and contemporary. Prerequisite: departmental consent. A 25 825 9 2208

834. Seminar in Urban Sociology. (3). Independent research projects in urban sociology. Prerequisite: departmental consent. A 25 834 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 contemporary theorists. Prerequisite: Soc. 645 or 646 or departmental consent. A 25 845 9 2208

847. Seminar in Recent Developments in Sociology. (3). Major issues, new theories, new techniques of research, new areas of research and new applications. Repeatable for credit but not to exceed six hours. Prerequisites: 15 hours of sociology and departmental consent. A 25 847 9 2208

851. Directed Research. (1-3). Designed for the advanced student who wants to achieve research competence in a specific area. Each student is directed by a member of the graduate faculty who guides them in developing research skills. Prerequisites: Soc. 510 or 511 and instructor’s consent. A 25 651 4 2208

750. Sociology Workshop. (1-3). A course designed to provide specialization instruction, using a variable format, in a sociologically relevant subject. A 25 750 2 2208

* Prerequisite may be waived with departmental consent.
551. Independent Studies. (1-3). This course introduces students to the study and practice of interpersonal professional interaction skills within the framework of a social work helping process. The course focuses on developing skills in professional observation, communication, interviewing, recording, and reporting. The course is didactic as well as interactive and incorporates an integrated laboratory component which focuses on experimental learning. Required for social work majors and open to nonmajors. Prerequisite: Sc.Wk. 201 for social work majors; departmental consent for nonmajors. A 25 550 0 2104

552. Social Welfare Policy and Services II. (3). This course analyzes current social work practice, as well as its future directions. Prerequisite: Sc.Wk. 501. A 25 604 9 2104

601. Advanced Social Work Practice. (3). Placement in community social welfare agencies for supervised direct service assignments with emphasis on formulating 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. Sc.Wk. 601 is to be taken concurrently except by departmental consent. Prerequisite: Sc.Wk. 602. A 25 605 2 2104

610. Aging: Personal, Social, and Professional Perspectives. (3). Cross-listed as Gerov. 610. A realistic look at the comprehensive role of social work practice and the helping professions in work with the aging. Provides a focus on work with individuals, groups and community organizations. Links social with economic and political factors. Highlights current and future developments in social policy, human service practice and demography as the total life cycle is conceptualized. Prerequisite: departmental consent. A 25 610 0 2104

750. Social Work Workshops. (1-5). Specialized instruction using a variable format in a social welfare relevant subject. This course may be offered together with Sc.Wk. 150. Prerequisite: instructor's consent. A 25 750 2 2104

Spanish (See Modern and Classical Languages and Literatures)

Women’s Studies

The Center for Women’s Studies is a resource and research center for scholarship concerning women. The center offers courses and administers the major in women’s studies, a discipline which presents an analysis of gender in society through the use of a variety of approaches, including feminist theory. Students investigate such areas as changing gender role expectations, American and cross-cultural social concerns, and the professional and domestic contributions of women to the culture, especially concerning the role of women in the arts and sciences. Women’s studies may also be pursued as a part of a dual major or as a minor by students whose intellectual or vocational interests are best served by a focus on women’s studies in conjunction with another academic field.

Major. Within the major in women's studies, students may focus on either humanities or social science women's studies courses, supplementing each track with interdisciplinary courses that apply to either focus. The major requires a minimum of 15 hours of women’s studies courses, including Wom. S. 387Q and 388Q.

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 4R, 2L means four hours of lecture and two hours of lab. 

The following combinations of courses are possible:

1. 12 hours of required courses, Wom. S. 387Q, 388Q, 580D and 635
2. 9 hours of Humanities women’s studies courses (group 2 below) or a combination of Humanities and interdisciplinary courses (group 1 below)
3. 3 hours of Social Science women’s studies courses (group 3 below)
4. 6 hours of Humanities women’s studies courses (group 2 below)
5. 6 hours of Social Science courses outside women’s studies curriculum, with departmental adviser’s approval.

Group 1: interdisciplinary women’s studies courses

Wom. S. 180A, 180I, 380, 380C, 390Q, 481, 570, 580

Group 2: Humanities-oriented women’s studies courses


Group 3: Social Science-oriented women’s studies courses


Minor. The minor in women’s studies consists of a minimum of 15 hours of women’s studies courses, including Wom. S. 387Q and 388Q.
Lower-Division Courses

180. Special Topics. (1-2). Topics vary by semester. Past topics have included such areas as the working woman, assertion training, domestic violence and rape information and prevention. A 35 180 0 4903

190Q. The American Woman. (3). Students will examine the ways in which the mainstream society "defines" the American woman. The class will examine a wide range of cultural "phenomena" as it studies gender identification. Topics will range from children's toys to music video, from standards of physical beauty promoted in advertising to daytime soap operas, and more. A 35 190Q 0 4903

240. Minority Women in America. (3). Cross-listed as Min. S. 240Q. A 30 240 0 4903

Upper-Division Courses

316, The American Male. (3). Cross-listed as Soc. 316. A 35 316 0 2208

333. Women and Religion. (3). Cross-listed as Rel. 333Q. A 35 333 0 1510

338. Philosophy of Feminism. (3). Cross-listed as Phil. 338. A 35 338 0 4902


380. Special Topics. (1-3). This course focuses on intermediate topics of interest to women's studies. A 35 380 0 4903

380B. Biographies and Autobiographies of Great and Notable Women. (3). An examination of women's contributions to society through their biographies and other writings. A 35 380B 0 4903

380C. International Women's Issues. (3). Cross-listed as Min. S. 240Q. A 35 380C 0 4903

380D. Women and Dependencies. (3). Cross examines the various ways in which women are handed various dependencies in areas such as chemical dependency, social and prescriptive drugs, relationships, dependencies, food disorders and fitness obsessions. A 35 380D 0 4903

380E. My Journal, My Self. (3). Course explores the literary genre of journal writing. A 35 380E 0 4903

382. Women in the Administration of Justice. (3). Cross-listed asAJ 382Q. A 35 382 0 2105

387Q. Women in Society: Cultural Images. (3). This course examines the roles, relationships and roots of women in our society as reflected in such areas as art, literature, myth, religion, psychology, education and politics. Women in other cultures and other times also are considered, as are feminist visions of the future. A 35 387Q 0 4903

388Q. Women in Society: Social Issues. (3). This course examines women's efforts to claim their identity from historical, legal, and social perspectives. Included for consideration are recent laws relating to women; contemporary issues (such as rape, day care, working women, the future of marriage); agencies for change; theories of social change; and the relationships of women's rights to human rights. A 35 388Q 0 4903

390Q. Motherhood: Myths and Realities. (3). This course focuses on the nature of motherhood as idea, myth and experience. Stereotypes about motherhood, approaches to motherhood in various cultural settings and time periods, religious attitudes toward motherhood, the adult "child" and her/his relationship with mother, the experience of childbirth, motherhood as related to economic and political realities and the future of motherhood are some of the topics explored in the course. A 35 390Q 0 4903

481. Cooperative Education. (1-4). The goal of this course is to provide the student with a field placement that integrates theory with a planned and supervised professional experience designed to complement and enhance the student's academic program. Offered C/NCR only. A 35 481 3 4999

499B. Women in American Film. (3). Cross-listed as Am. St. 499B. The changing role of women in 20th century American society can be understood by how they have been depicted in American films which both create cultural values and reflect them. A 35 499B 0 4903

Courses for Graduate/Undergraduate Credit

516. Sociology of Sex Roles. (3). Cross-listed as Soc. 516. A 35 516 0 2208

530. The American Woman In History. (3). Cross-listed as Hist. 530. A 35 530 0 2205

533. Women and the Law. (3). This course is an introduction to the legal aspects of women's rights, including the equal rights amendment to the U.S. Constitution; right to choose a name; sex discrimination in employment, education and credit; welfare and criminal justice. Consideration also is given to women in the field of law, such as lawyers and legislators. A 35 533 0 0313


535. Images of Women in Literature. (3). Cross-listed as Engl. 535. Women characters as stereotypes, archetypes and fully developed human beings in the works of various authors. A 35 535 0 1502

536Q. Writing by Women. (3). Cross-listed as Engl. 536. The work of major women writers, both British and American, in poetry and prose. A 35 536Q 0 1502

542. Women in Other Cultures. (3). Cross-listed as Anthr. 542. A 35 542 0 2202

570. Directed Readings. (1-3). This course is designed for students who wish to pursue special reading or research projects not covered in course work. Prerequisite: instructor's consent. A 35 570 3 4903

580. Special Topics. (1-3). This course focuses on advanced topics of interest to women's studies. A 35 580 0 4903

580C. Contemporary Woman's Art. (3). This course focuses on works by women in the visual arts, music and poetry since the 1960s. A 35 580C 0 4903

580D. Theories of Feminism. (3). This course examines various approaches taken by theorists both of the women's movement and of the cultural status of women. A 35 580D 0 4903

580J. Women's Traditional Arts. (3). Cross-listed as Cornm. 580J. A course focuses on the nature of motherhood as idea, myth and experience. Stereotypes about motherhood, approaches to motherhood in various cultural settings and time periods, religious attitudes toward motherhood, the adult "child" and her/his relationship with mother, the experience of childbirth, motherhood as related to economic and political realities and the future of motherhood are some of the topics explored in the course. A 35 580J 0 4903

587Q. 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 relationships of women's rights to human rights. A 35 587Q 0 4903

590. Directed Readings. (1-3). This course is designed for students who wish to pursue special reading or research projects not covered in course work. Prerequisite: instructor's consent. A 35 590 3 4903

599B. Women in American Film. (3). Cross-listed as Am. St. 599B. The changing role of women in 20th century American society can be understood by how they have been depicted in American films which both create cultural values and reflect them. A 35 599B 0 4903

635. Leadership Techniques for Women. (3). Cross-listed as Comm. 635. A course designed to provide the woman student experience in decision making and to improve skills in leadership through role playing and exercise in group dynamics. A 35 635 0 1599

870. Directed Readings. (2-3). Designed for graduate students who want to pursue research in areas not normally covered in course work. Repeatable for credit with department consent. Prerequisite: instructor's consent. A 35 870 4 4903

880. Seminar in Women's Studies. (3). Intensive study of selected women's studies topics. Seminar discussion, reports and research project. Repeatable for credit with department consent. Prerequisite: instructor's consent. A 35 880 9 4903

The following abbreviations are used in the course descriptions: R stands for lecture and L for laboratory. For example, 3R, 4L means three hours of lecture and four hours of lab.
University Faculty—Fall, 1988

Date or dates following title refer to time of initial and successive appointments. Faculty listed have academic rank.

Aagaard, Alan A., Assistant Professor of Industrial Technology. BA, California State University, Long Beach, 1970; EdD, University of Northern Colorado, 1975.

Acker, Andrew F., Associate Professor of Mathematics and Statistics (1987) BS, Union College, 1969; PhD, Boston University, 1972.

Ackerman, Paul D., Assistant Professor of Psychology (1986). BA, The University of Kansas, 1964; MA, 1966; PhD, 1969.


Adkins, Russell F., Assistant Professor of Education and Director of Media Resources Center (1974). BA, University of Kentucky, 1968; MS, Clarion State College, 1974.

Alexander, David R., Associate Professor of Physics and Executive Director of Lake Atlin Public Observatory (1971). BS, Kansas State University, 1967; AM, Indiana University, 1968; PhD, 1971.


Allegrucci, Robert L., Assistant Professor of Sociology. BA, Slippery Rock State University, 1959; MA, 1960; PhD, University of Missouri, 1969; MA, University of Delaware, 1967.

Alten, Anneke S., Associate Professor of Chemistry (1984). Candidate Ryksuniversiteit Groningen Netherlands, 1952; PhD, Tulane University, 1955.


Alley, Robert D., Professor of Secondary Education and Associate Dean of Education (1967). BS, Iowa State University, 1957; ME, University of Montana, 1960; EdD, Arizona State University, 1969.

Anderson, Leslie W., Assistant Professor of Journalism in the Elliott School of Communication (1987). BA, South- ern Utah State College, 1972; MA, Brigham Young University, 1974; PhD, Bowling Green State University, 1978.


Babinch, Judith, Assistant Professor of Theatre (1976). BA, Eastern Michigan University, 1972; MA, University of Cincinnati, 1976; PhD, University of California, 1981.


Bajaj, Prem N., Associate Professor of Mathematics and Statistics (1968). BA, Punjab University, 1951; MA, 1954; MS, Case Western Reserve University, 1967; PhD, 1968.

Bakken, Linda, Assistant Professor of Educational Psychology (1985). BA, Northern Michigan University, 1960; MS, Utah State University, 1979; EdD, Boston University, 1983.


Ballenger, Marcus T., Associate Professor of Elementary Education (1970). BS in Ed, New Mexico State University; MA/BEd, Texas Tech University, 1963; EdD, 1970.


Bartel, Peter S., Assistant Professor of Physics (1965). AB, Bethel College, 1943; MA, University of Iowa, 1953.


Baker, Morton, Associate Professor of Decision Sciences (1966). BSME, University of South Carolina, 1946; MS, University of North Carolina, 1950; PhD, Oklahoma State University, 1967.


Bean, Lu Ann, Assistant Professor of Accountancy (1989). BS, Southwest Missouri State University, 1976; MS, University of Tulsa, 1985.


Belt, John A., Associate Professor of Management (1971). BA, University of Southern California, 1966; PhD, Texas Tech University, 1971.


Benningfield, Lloyd M., Professor of Electrical Engineering (1967). BSEE, Oklahoma State University, 1951; MSEE, University of Missouri, 1957; PhD, Purdue University, 1965.


Berman, Nancy, Assistant Professor of Management (1980). BA, The Wichita State University, 1969; MBA, 1974; PhD, University of Minnesota, 1981.

Bernhardt, Walter D., Professor of Aerospace Engineering (1954, 1964). BSCE, Kansas State University, 1950; MS, The Wichita State University, 1959; PhD, Oklahoma State University, 1964; Licensed Professional Engineer—Kansas.


Bezzi, Diodato R., Associate Professor of Elementary Education (1959). BS, Michigan State University, 1948; EdM, University of Oklahoma, 1957.

Billings, Dorothy K., Assistant Professor of Anthropology (1968). BA, University of Wisconsin, 1955; PhD, University of Sydney, 1965.

Bischoff, William, Assistant Professor of Geology (1984). BA, DePauw University, 1979; MS, Northwestern University, 1982; PhD, 1986.


Blakeslee, Donald J., Associate Professor of Anthropology and Coordinator of General Education (1976). BA, University of Nebraska, 1969; MA, 1971; PhD, University of Wisconsin-Milwaukee, 1975.

Blaziecz, Donald L., Assistant Professor and Chairperson of Department of Administration of Justice (1976). BA, Northern Illinois University, 1967; MA, 1970; PhD, University of Kansas, 1979.


Blythe, Jack G., Professor of Geology (1949, 1957). BA, The Wichita State University, 1947; MS, Northwestern University, 1950; PhD, University of Oklahoma, 1957.

Bogner, Donna, Assistant Professor of Chemistry (1988). AA, Hutchinson Junior College, 1949; BS, McPherson College, 1965; MSEE, The Wichita State University, 1972; PhD, Kansas State University, 1981.


Borresen, C. Robert, Associate Professor of Psychology (1965). BS, Northwestern University, 1953; AM, University of Missouri, 1958; PhD, 1968.

Bostick, Sharon, Assistant Professor and Head of Reference, Library (1887). BA, Oak-

Interim Director of Women's Studies (1982).

Professor of Computer Science (1981). AB, Marymount College, 1957; MA, St. Louis University, 1959; PhD, 1961; MS, Ohio State University, 1974.


Fell, Laura, Associate Professor of Sociological (1985). BS, University of Nebraska, Lincoln, 1971; MA, 1981; PhD, 1985.

Egbert, Robert I., Associate Professor of Electromechanical Engineering (1980). BSEE, University of Missouri at Rolla, 1972; MSEE, 1973; PhD, 1976; Licensed Professional Engineer—Missouri, Kansas.

Eichler, Victor B., Associate Professor of Biological Sciences (1971). BS, University of Illinois, 1963; MS, 1964; PhD, University of Iowa, 1969.

Eccrat, Alan R., Professor of Mathematics and Sciences (1957). BSE, University of New Mexico, 1963; MA, Indiana University, 1965; PhD, 1967.

Elizondo, Epifanio, Assistant Professor of Psychology (1975). BA, University of Washington, 1975; BHS, The Wichita State University, 1981; MHS, 1984; PhD, Kansas State University, 1988.


Feleppa, Robert, Associate Professor of Philosophy (1980). BA, University of Illinois, 1970; MA, Illinois State University, 1972; PhD, Arizona State University, 1976.

Femandez, Jeffrey E., Assistant Professor of Industrial Engineering (1986). BEng, NED University of Technology, Karachi, Pakistan, 1982; MSIE, Texas Tech University, 1983; PhD, 1986.

Fife, Natasha Matson, Assistant Professor of Physical Education (1958). BS, Texas Woman's University, 1958; MA, The Wichita State University, 1967.

Fisher, Glenn W., Regents Professor of Urban Affairs and Associate Director of Urban Studies (1979). BS, Emporia State University, 1964; MA, George Washington University, 1965; PhD, University of Kansas, 1970.

Flentje, H. Edward, Professor of Urban Affairs and Associate Director of Urban Studies (1979). BS, Emporia State University, 1964; MA, George Washington University, 1965; PhD, University of Kansas, 1970.


Foran, Michael F., Professor of Accounting (1988). BS, University of Arizona, 1967; MAS, University of Illinois, 1968; PhD, University of Washington, 1972; CMA; CPA—Oklahoma, Texas.

Foran, Nancy Joyce, Assistant Professor of Accounting (1979). BS, University of California at Los Angeles, 1965; MS, The Wichita State University, 1967; PhD, Oklahoma State University, 1965; CPA—Kansas.

Foster, William D., Associate Professor and Chairperson of Department of Physics (1956). BA, Reed College, 1957; PhD, University of Kansas, 1968.


Fox, L. Raymond, Professor of Biological Sciences (1979). BS, University of California, Santa Barbara, 1963; PhD, 1967.


Frenzont, Theodore S., Associate Professor of Educational Psychology (1970) BA, Nebraska Wesleyan University, 1965; MS, Fort Hays State University, 1967; EdD, Oklahoma State University, 1982.

French, Thomas C., Assistant Professor of Mathematics and Statistics (1965). BS, The Wichita State University, 1962; MS, Colorado State University, 1965; PhD, Pennsylvania State University, 1968.

Frentz, Suzanne, Assistant Professor of Speech Communication in the Elliott School of Communication (1986). BA, The Wichita State University, 1966; MA, Mankato State College, 1968; PhD, University of Wisconsin-Madison, 1980.


Fry, Maurine A., Assistant Professor of Educational Psychology and Dean of College of Education (1988). BS, University of South Dakota (1957); Master of Education, 1967; PhD, University of Northern Colorado, 1975.

Full, William E., Associate Professor of Geology (1982). BS, University of Notre Dame, 1963; MS, University of Illinois-Chicago Circle, 1980; PhD, University of South Carolina, 1982.


Gass, Marcelle B., Assistant Professor and Chairperson of Business Education (1969). BS, University of Kansas, 1949; MS, The University of Southern California, 1957; PhD, Kansas State University, 1975.


German, Malcolm P., Assistant Professor and Biomedical Librarian (1965). AA, Highland Community Junior College, 1965; BA, University of Kansas, 1967; MA, University of Kansas, 1972; MS, Emporia State University, 1974.

Gibson, George, Professor of Opera Theater and Voice (1969). BA, University of Miami, 1956; MM, University of Texas, 1959; DMA, University of Southern California, 1971.


Gotian, Joseph, Associate Professor of Accounting (1987). BSBA, Creighton University, 1979; MS, University of Kansas, 1981.


Graham, Archie Richard, Professor of Mechanical Engineering and Director of Center for Productivity Enhancement (1985). BSME, Kansas State University, 1967, MS, 1969; PhD, University of Iowa, 1966.

Graham, Gerald H., R. P. Clinton Distinguished Professor of Management and occupies the R. P. Clinton Endowed Chair of Management (1967). BS, Northwestern State College, 1959; MSA, 1960; PhD, Louisiana State University, 1968.

Graham, John K., Professor and Chairperson of Department of Communication Disorders and Sciences (1966). BS, Wayne State University, 1948; MA, 1951; PhD, Northwestern University, 1955.


Green, Joseph J., Assistant Professor of English (1968). BS, Texas Tech University, 1956; MA, 1957; PhD, University of Texas, 1969.

Grewwall, Mahesh S., Professor of Mechanical Engineering (1969). BSE, University of Alhabab, India, 1953; BS, University of California at Berkeley, 1957; MS, 1959; PhD, 1967.


Gries, John C., Associate Professor and Chairperson of Geology (1971). BS, University of Wyoming, 1962; MS, 1965; PhD, University of Texas, 1970.

Griffith, Kenneth, Professor of Political Science (1954). BA, The Wichita State University, 1947; MPA, Syracuse University, 1964; PhD, University of Chicago, 1967.


Guthiel, Anthony P., Associate Professor of English (1971). Diplome d'Humanites, St. Stanislas, Popeine, Belgium, 1950; BPh, Meine de Philosophe, Brussels, Belgium, 1953; MA in Theology, Maison de Theologie, U.S.S.R., 1959; PhD, University of Detroit, 1966; PhD, 1971.


Halbrook, Mark E., Assistant Professor of Speech Communication and Director of Forensics in the Elliott School of Communication (1987). BA, Oklahoma Christian College, 1963; MA, University of Oklahoma, 1965; PhD, University of Nebraska, 1969.

Halstead, Helen L., Assistant Professor of Nursing (1970). BSN, The University of Kansas, 1955; MEd, University of Minnesota, 1959; PhD, Kansas State University, 1962.

Hambrick, Wendell, Instructor of Computer Science (1988); BS, Fort Hays State University, 1960; MS, The Wichita State University, 1966; PhD, 1969.


Hansan, John F., Associate Professor and Chairperson of Department of Physical Education, Health and Recreation (1964); BS, The University of Kansas, 1962; MS, 1963; EdD, University of Oregon, 1969.

Hanson, Mary C., Assistant Professor of Management (1986); BA, California State University-Fresno, 1960; MBA, Southern Methodist University, 1981.

Hanson, Mary D., Instructor of Mathematics and Statistics (1988); BA, The Wichita State University, 1970; MS, 1987.

Hardy, James Lynn, Professor of Music Education (1965); BS in Ed, Southwest Missouri State University, 1964; MME, University of Kansas, 1956; EdD, 1969.

Harmon, Dorothy A., Instructor and Director, Marcus Center for Continuing Education (1974); BA, The Wichita State University, 1946.

Harmon, William W., Assistant Professor of Health, Administration and Gerontology and Director of University College (1980); BS, Johnson C. Smith University, 1968; MA, Seton Hall University, 1974; PhD, Kansas State University, 1984.

Hardy, William R., Professor of Military Science (1985); BA, Oklahoma State University, 1956; MA, Central Michigan University, 1978.

Harris, James A., Assistant Professor of Mechanic's Engineering (1984); BS, Cornell University, 1972; MS, Colorado State University, 1979; PhD, 1984. Licensed Professional Engineer—Colorado.

Hartman, John J., Professor and Chairperson of Sociology (1968); BS, Southwest Missouri State University, 1961; MS, University of Missouri, 1963; PhD, 1966.

Hartman, Tom E., Instructor and Coordinator of Cooperative Education (1984); BS, University of Wichita, 1949.

Hartshorne, Timothy S., Assistant Professor of Counseling and School Psychology (1978); BA, Grinnell College, 1970; MA, Colorado College, 1973; PhD, University of Wisconsin, 1978.

Harstine, Robert F., Assistant Professor of Business Law and Vice President for University Advancement (1965); BS, Emporia State University, 1970; MS, 1972; JD, Washburn University, 1979.

Hathaway, Jeanine M., Assistant Professor of English (1974); BA, Siena Heights College, 1969; MFA, Bowling Green State University, 1973.

Hathaway, W. Stephen, Assistant Professor of English (1974); BA, Michigan State University, 1967; MFA, Bowling Green State University, 1973.

Hay, Bryan S., Associate Professor of English (1965); BS, University of Rochester, 1958; PhD, 1969.

Haydon, Randall B., Professor of Economics (1986); BA, Oberlin College, 1954; MA, 1956; PhD, University of Illinois, 1962.


Hayes, Patricia V., Assistant Instructor of Speech Communication and Development Director, KMUW Radio in the Elliott School of Communication (1978); BA, The Wichita State University, 1960; MA, The University of Kansas, 1966.

Hayes, Judith, Instructor of Gerontology and Information Coordinator, University Gerontology Center (1973, 1976); AB, Indiana University, 1962; MA, Ball State University, 1965.

Hays, William C., Associate Professor of Gerontology/Sociology and Director, University Gerontology Center (1973); BS, Ball State University, 1967; MA, 1968; PhD, University of Missouri, 1973.


Headley, Dean, Assistant Professor of Music (1988); BSB, Emporia State University, 1970; MPH, University of Oklahoma, 1974; MBA, The Wichita State University, 1982.

Headley, Esther L., Instructor of Marketing and Associate Director of MBA Program (1980); BBA, The Wichita State University, 1979; MBA, 1980.

Henderson, Jane S., Assistant Professor of Health, Administration and Gerontology (1996); AB, University of Alabama, 1965; MA, 1967; PhD, University of Wisconsin-Madison, 1973; OMSW, University of Iowa, 1975.

Hersch, Philip, Assistant Professor of Economics (1983); BA, Queens College, 1974; MA, Ohio State University, 1978; PhD, 1982.

Hershey, Mylliss A., Associate Professor of Educational Psychology (1979); BA, Tabor College, 1951; MS, Emporia State University, 1965; PhD, Kansas State University, 1976.

Hitchcock, Ruth A., Assistant Professor of Counseling and School Psychology (1981); AB, Indiana University, 1971; MS, 1973; PhD, 1983.

Ho, James C., Professor of Physics and Chemistry and Director of Cooperative Education (1984); BS, University of Victoria, 1949.

Hoff, Samuel, Assistant Professor of Political Science (1988); BA, Susquehanna University, 1979; MA, American University, 1981; MA, State University of New York, 1983; PhD, 1987.

Hogan, Kevin P., Instructor of Accounting (1987); BS, University of Kansas, 1980; MBA, 1982.

Hogan, Linda, Assistant Professor of Mathematical Technology (1972); BS, Emporia State University, 1965; MT (ASCP), 1972; BSB (ASCP), 1972; MEd, The Wichita State University, 1977.

Holmes, Ellen C., Assistant Professor of Health, Administration and Gerontology and Academic Coordinator of Gerontology (1975); BA, The Wichita State University, 1968; MA, 1971; PhD, The University of Kansas, 1981.


Holt, Neida Beatrice, Assistant Instructor and Coordinator of Elementary Education (1976); BS in Ed, Pittsburg State University 1968; MS, 1969.

Hommertzheim, Donald L., Associate Professor and Graduate Coordinator of Industrial Engineering (1985); BA, Friends University, 1965; MS, The Wichita State University, 1970; PhD, University of Arkansas, 1975.

Hooper, Steven J., Assistant Professor of Aerospace Engineering (1987); BS, Iowa State University, 1973; MS, The Wichita State University, 1978; PhD, Iowa State University, 1983.

House, Walter J., Associate Professor of Aerospace Engineering (1984); BS, University of Alabama, 1967; MS, University of Texas, 1969; PhD, 1972. Licensed Professional Engineer—Texas.


Hoyer, Elmer A., Professor of Electrical Engineering (1969); BS, The Wichita State University, 1962; MSEE, University of Missouri, 1964; PhD, 1967.

Hubbard, Joan, Assistant Professor and Coordinator of Cooperative Education (1988); BA, University of Utah, 1971; MLS, University of Oregon, 1976.

Huckstadt, Alicia A., Associate Professor of Nursing (1975); BSN, The Wichita State University, 1975; MS, 1978; PhD, Kansas State University, 1981.

Hughes, David, Assistant Professor of Anthropology (1988); BS, West Texas State University, 1973; MA, University of Arkansas, 1977.

Humphrey, Bobbye J., Assistant Professor of Social Work (1968); AB, Friends University, 1948; MSW, The University of Kansas, 1965.

Hung, Hsien-Ming J., Assistant Professor of Mathematics and Statistics (1986); BS, National Tsing Hua University, Taiwan, 1974; MS, University of North Carolina, 1979; PhD, Iowa State University of Science and Technology, 1983.

Hunter, Ann P., Assistant Professor of Health, Administration and Gerontology (1980); BS, Iowa State University, 1954; MS, 1955.

Huntley, Debra K., Assistant Professor of Psychology (1987); BS, University of Minnesota, 1981; MA, University of Houston, 1985; PhD, University of Houston, 1987.

Huntley, Diane E., Associate Professor of Dental Hygiene (1976); BA, Ohio State University, 1968; MA, University of Iowa, 1972; PhD, University of Iowa, 1979; PhD, Iowa State University of Science and Technology, 1983.

Hunter, Frederick M., Instructor and Acting Director of Media Resources Center (1978); BA, Indiana University, 1975; MA, 1976.

Hutcherson, Bernice, Assistant Professor of Social Work (1973); BA, Langston University, 1950; MSW, The University of Kansas, 1960.

Hutchinson, Donald C., Professor of Mathematics and Statistics, and Director, Center for Aviation Safety Research and Interim Chairperson of Department of Mathematical Sciences (1976); BA, St. Benedict's College, 1962; MA, The University of Kansas, 1966; PhD, 1968.

Iacovetta, Ronald G., Associate Professor of Administration of Justice (1973); BS, Colorado State University, 1965; MS, 1967; PhD, University of Connecticut, 1972.
FACULTY 201

1978; MS, Purdue University, 1981; PhD, 1985.


Mukerjee, Hari, Associate Professor of Mathematics (1963). BA, University of Calcutta. 1954; MS, University of Missouri, 1957; PhD in Physics, 1967; PhD in Statistics, State University of New York, 1977.

Munoz, MA, Assistant Professor of Spanish (1984). BA, California State University, 1976; MA, University of California-Irvine, 1979; PhD, 1984.

Murdoch, Katherine, Assistant Professor of Music at the University of North Carolina-Chapel Hill, 1971; MA, 1973; PhD, 1977.

Myers, Eunice E., Associate Professor of Chemistry (1965). BA, University of Denver, 1957; BS, University of Northern Colorado, 1959; MS, University of Colorado, 1961; PhD, 1966; DMA, University of Missouri at Kansas City, 1979.

Nagati, Mohammad R., Assistant Professor of Mechanical Engineering (1983). BSME, University of Houston, 1976; MSME, 1978; PhD, 1981.


Nance, Donald W., Associate Professor and Director of Counseling Services (1968). BA, University of Redlands, 1964; MA, University of Iowa, 1967; PhD, 1968.


Needles, Audrey, Associate Professor of Theater (1965). AB, University of Denver, 1947; MA, 1948.


Nichols, Francine, Associate Professor of Nursing (1984). BSN, The Wichita State University, 1966; MEd, University of Texas-Austin, 1977; PhD, 1984.

Nilsen, Carl C., Associate Professor of Finance (1968). BA, Dana College, 1956; MA, University of Nebraska, 1963; PhD, 1966.


Reed, Paul E., Associate Professor of Piano (1966). BM, Drake University, 1956; MM, 1957.

Ratigan, James J., Professor of Education, Vice President for Student Affairs and Dean of Students (1965). BA, Coe College, 1957; MA, Syracuse University, 1959; PhD, University of Wisconsin, 1967.


Richardson, William H., Associate Professor of Mathematics and Statistics (1962). AB, California State University, Chico, 1959; MS, Iowa State University, 1961.

Richardson, William Harrison, Associate Professor of History (1978), BA, University of California, Santa Barbara, 1969; MA, University of California, Berkeley, 1970; PhD, 1976.

Roberts, John, Associate Professor of Modern and Classical Languages and Literatures (1986). BA, Mary Washington College of Virginia, 1961; MA, Portland State University, 1965; PhD, University of Oregon, 1964.

Ritchie, Gisela F., Associate Professor of German (1965). MA, Free University of Berlin, 1952; PhD, University of Michigan, 1965.

Rosarchek, Clayton A., Assistant Professor of Philosophy (1989). BA, University of Nebraska, 1970; PhD, University of California, 1977.

Robert, M. Diane, Associate Professor of Health Science and Dean of the College of Health Professions (1984). BS, Mississippi State University, 1963; MS, 1964; DPH, University of Texas School of Public Health, 1976.


Rogers, Ben F., Associate Professor of Philosophy (1966). BA, University of Tennessee, 1958; MAT, Vanderbilt University, 1961; MA, Johns Hopkins University, 1966; PhD, 1970.


Rolf, Charles A., Assistant Professor of Counseling, School Psychology (1985). BA, University of Illinois, 1977; MA, Trinity Evangelical Divinity School, 1978; PhD, Purdue University, 1982.

Ross, Robert G., Associate Professor of Mathematics and Director of MBA Program (1977). AB, Cornell University, 1964; MBA, 1966; PhD, University of Oklahoma, 1979.

Rothman, Hal Kali, Assistant Professor of History and Theatre (1988). BA, University of Illinois at Urbana-Champaign, 1960; MA, University of Texas at Austin, 1982; PhD, 1985.

Roush, Dean, Assistant Professor of Music (1962). BS, Muhlenberg College, 1961; MM, Bowling Green State University, 1975; DMA, The Ohio State University, 1985.

Rowe, James A., Associate Professor of Nursing and Coordinator, Clinical Education (1983). BS, South Dakota State University, 1970; MN, The Wichita State University, 1980.

Rozelle, Robert W., Assistant Professor of University College and Coordinator of Advising Services (1978). BA, University of New York, Cortland, 1966; MS, Ohio University, 1967.


Salameh, Dieter, Professor of German (1971). BA, Northwestern State University of Louisiana; MA, The Johns Hopkins University, 1965; PhD, Washington University, 1968.

Saffzadeh, Hossein, Associate Professor of Decision Sciences (1979). BA, Iran Institute of Banking; MBA, Oklahoma State University, 1983; PhD, Texas Tech University, 1987.

St. John, Richard W., Professor of Ceramic (1969). BFA, Kansas City Art Institute, 1957; MFA, Alfred University, 1969; PhD, State University of New York at Stony Brook, 1976.


Saradjieh, Alvin, Distinguished Trustees Professor of Electrical Engineering (1985). BA, University of Missouri at Kansas City, 1948; MA, 1950; PhD, Kansas State University, 1958.


Schafer, Keith F., Professor of Library Science, University Librarian and Dean of Abraham Library (1971). BA, Occidental College, 1954; MA, Stanford University, 1957; MLS, University of Southern California, 1958, 1964.


Schneider, Kim N., Assistant Professor of Anthropology (1984). BA, Brandeis University, 1977; MA, 1979; PhD, Ohio State University, 1984.

Schneider, Philip L., Associate Professor of English and Director of Creative Writing (1967). BA, State University of New York College at Oneonta, 1965; MFA, University of Iowa, 1967.


Schrag, Robert L., Professor of Electrical Engineering (1975). BSEE, Kansas State University, 1945; MSEE, California Institute of Technology, 1946; PhD, Pennsylvania State University, 1948.


Schuk, John H., Professor of Counseling and School Psychology and Associate Vice President for Student Affairs (1977). BA, University of Wisconsin, Oshkosh, 1969; Master of Counseling, Arizona State University, 1972; PhD, 1974.


Slater, Stanley A., Assistant Professor of Biological Sciences (1984). BS, University of Nebraska-Lincoln, 1961; MS, University of Nebraska-Omaha, 1983.


Smith, Bert L., Professor and Chairperson of Aerospace Engineering and Coordinator of Composite Materials (1966). BSME, University of Missouri-Columbia, 1956; MS, 1960; PhD, Kansas State University, 1966.


Smith, Nicholas E., Associate Professor of Foreign Horn (1975). BM, Pittsburg State University, 1972; MA, Eastman School of Music, 1972; DMA, 1980.

Snyder, Jacqueline J., Associate Professor of American Studies, Dean of Continuing Education and Director of Summer Sessions (1982). BA, College of St. Catherine, 1963; MA, University of Minnesota, 1966; DA, University of Oregon, 1971.

Snyder, James J., Associate Professor of Psychology (1967). BA, Loras College, 1968; MA, Southern Illinois University, 1974; PhD, 1977.

Snyder, Melvin H., Jr., Professor of Aerospace Engineering (1947). BSME, Carnegie-Mellon University, 1947; MS, The Wichita State University, 1950; PhD, Oklahoma State University, 1967; Licensed Professional Engineer—Kansas.


Sobin, Andrew G., Associate Professor of English (1970). BA, Tulane University, 1966; MFA, University of Iowa, 1969; PhD, University of Utah, 1975.


Soles, James J., Distinguished Trustees Professor of Humanities (1956). BA, The Wichita State University, 1947; MA, University of Michigan, 1948; PhD, 1952.


Staley, Christopher P., Assistant Professor of Ceramics (Studio Arts) (1985). BFA, Wittenberg University, 1977; MFA, Alfred University, 1980.

Stanga, John E., Jr., Associate Professor and Chairperson of Political Science (1968). BA, Southeastern Louisiana University, 1961; MA, Louisiana State University, 1963; PhD, University of Wisconsin, 1971.

Stephan, Rebecca, Instructor and Assistant Chairperson of the School of Accountancy (1986). BS, Fort Hays State University, 1977; MBA, 1979; CPA—Kansas.

Stephens, Frances A., Associate Professor of Business Administration (1970). BA, AUM, 1956; MA, University of Texas, 1967; PhD, 1970.


Sterk, Gary A., Associate Professor of Dental Hygiene (1972, 1977). BS, University of Missouri at Kansas City, 1967; MS, Kansas State University, 1978; PhD, 1980.

Stevenson, William T., Associate Professor of Chemistry (1987). BS, University of Glasgow, Scotland, 1977; PhD, 1980. 


Strecker, Joseph L., Associate Professor of Physics (1968). BA, Rockhurst College, 1955; PhD, The Johns Hopkins University, 1961.


Suchenek, Marek A., Associate Professor of Computer Science (1986). MS, Warsaw Technical University, Poland, 1973; PhD, 1979.

Sudermann, Frederick, Associate Professor of Political Science and Executive Assistant Chairman of the Political Science Department (1979). BA, University of Wisconsin-Madison, 1964; Central State University, 1961; EdD, Oklahoma State University, 1983.

Sunderman, Rajeshwar, Assistant Professor of Computer Science (1983). BSc, BITS Institute of Technology and Science, India, 1980; MTECH, Indian Institute of Technology, 1982; PhD, Iowa State University, 1986.

Sutterlin, Peter G., Professor of Geology (1983). BS (Hon), McMaster University, 1953; MS, 1957; PhD, 1960.

Sweeney, Arthur B., Associate Professor of Mechanical Engineering (1988). BSc, University of Saskatchewan, 1969; MA, Case Western Reserve University, 1978; PhD, 1980.

Sweney, John D., Associate Professor of Mathematics and Statistics (1986). BS, Carrie University Egypt, 1969; MS, Idaho State University, 1963; PhD, Iowa State University, 1967.

Tejeda, Antonio M., Assistant Professor of Spanish (1967). AB, Bradley University, 1946; MA, Texas Tech University, 1967.

Tejeda, Beatriz, Assistant Professor of Business Law and Director, Legal Assistant Program (1957). BA, The University of Kansas, 1953; JD, 1955.

Terrell, William T., Associate Professor of Economics (1967). BS, Oklahoma State University, 1958; MS, 1961; PhD, Vanderbilt University, 1970.

Teshome, Asrat, Assistant Professor of Electrical Engineering (1986). BS, Addis Ababa University, 1974; MS, Cornell University, 1976; PhD, 1980.

Theerathom, Porchara, Assistant Professor of Finance (1986). BSc, Imperial College of Science and Technology, London, 1970; MBA, Thammasat University-Thailand, 1977; PhD, Northwestern University, 1983.

Thomas, James H., Associate Professor and Chairperson of American Studies (1976). BA, The University of Kansas, 1975; MEd, 1975; PhD, Oklahoma State University, 1976.

Thomas, Phillip, Professor of History and Dean of Farnam College of Liberal Arts and Sciences (1985). BSE, University of California, 1960; MA, University of New Mexico, 1964; PhD, 1965.


Thye, Larry, Associate Professor of Physical Education (1985). BA, The Wichita State University, 1967; MS, 1972; EdD, University of Missouri, 1983.

Tilford, Gerald A., Associate Professor of Secondary Education and Dean for Graduate Studies (1967). BS, Langston University, 1957; MA, The Johns Hopkins University, 1960; EdD, Oklahoma State University, 1970.

Tolhurst, Howard, Associate Professor of History (1963). AB, California State University, Sacramento, 1952; BD, Fuller Theological Seminary, 1955; MA, University of California at Berkeley, 1960; PhD, Stanford University, 1964.

Tomayko, James E., Associate Professor of Computer Science (1982). BA, Carnegie-Mellon University, 1971; MA, University of Pittsburgh, 1972; BS, The University of Kan-
Adjunct Faculty—Fall, 1988

<table>
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<tr>
<th>Name</th>
<th>Department</th>
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<tbody>
<tr>
<td>Miller, Glenn</td>
<td>Clinical Sciences</td>
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<td>Miller, Marguerite</td>
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<td>Millet, John H.</td>
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<td>Mohr, Philip J.</td>
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<td>Mood, Robert Gibba</td>
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<td>Mullikin, Margaret D.</td>
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<td>Murphy, James M.</td>
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<td>Nelson, F. Wiilam</td>
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<td>Newman, Arthur N.</td>
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<td>O'Hara, Downing P.</td>
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<td>Paddock, Barbara</td>
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<td>Parker, Albert R.</td>
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<td>Parrs, Wayne L.</td>
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<td>Pease, Beatrice Sanford</td>
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<td>Petersen, Kenneth C.</td>
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<td>Proctor, H.</td>
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<td>Reif, Martin A.</td>
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<td>Santos, Bienvenido N.</td>
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<td>Savallano, Eugene</td>
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<td>Sherman, Dorothy M.</td>
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<td>Simoni, John P.</td>
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<td>Small, Blanche L.</td>
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<td>Smith, R. V.</td>
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<td>Spangler, Eugene C.</td>
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<td>Taggat, Gladys Martha</td>
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<td>Tasch, Paul</td>
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<td>Teal, Mary Jane Woodard</td>
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<td>Terwilliger, Gordon B.</td>
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<td>Vahdat, Pari</td>
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<td>Wall, Lillian A.</td>
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<td>Watson, Tully L.</td>
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<td>Wentworth, C. Russell</td>
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<td>Wilkes, Mary Neil</td>
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<td>Wrestler, Ferna E.</td>
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<td>Zuercher, Victor H.</td>
<td>Clinical Sciences</td>
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Adjunct Faculty—Fall, 1988

Blosser, Shelly—Clinical Sciences
Bloxham, Thomas—Clinical Sciences
Bowens, Claire—Physical Therapy
Bowies, Mary—Physical Therapy
Bowles, Sharon—Nursing
Bowers, James M., Mechanical Engineering
Broehan, Susan B.—Physical Therapy
Brohag, Jean M.—Nursing
Brodie, Sharon—Clinical Sciences
Brown, Ron—Clinical Sciences
Brown, Shirley A.—Clinical Sciences
Brooks, Roe—Clinical Sciences
Broyning, Roger—Clinical Sciences
Bugg, Gary—Health, Administration and Gerontology
Bumpers, Pamela A.—Dental Hygiene
Burger, Pamela A.—Clinical Sciences
Burman, Janet—Clinical Sciences
Burnside, Linda—Clinical Sciences
Buxo, Marie—Clinical Sciences
Butin, J. Walker—Physician Assistant
Butler, Terry M.—Physical Therapy
Byrne, Robert—Physician Assistant
Calvert, Kathryn—Clinical Sciences
Calvin, Lola—Clinical Sciences
Cannon, Susan—Clinical Sciences
Cannon, Susan—Physical Therapy
Carey, Carol—Physical Therapy
Carlson, Sandy—Physical Therapy
Chadwick, Joyce B.—Nursing
Chambers, Barbara—Clinical Sciences
Chard, Frederick—Physician Assistant
Chatlain, Ann L. Harris—Clinical Sciences
Cho, Sechin—Clinical Sciences
Clark, D. Marie—Physical Therapy
Colby, Charles Chris—Physical Therapy
Colley, Robert—Physician Assistant
Concho, Vera Ann—Clinical Sciences
Condon, Carol—Clinical Sciences
Cook, Lloyd—Clinical Sciences
Cowen, Norma—Physical Therapy
Cowart, Carolyn S.—Physical Therapy
Crooks, Connie—Clinical Sciences
Crow, Wendy L.—Clinical Sciences
Curick, Edward K.—Physician Assistant
Davis, A. B.—Health, Administration and Gerontology
Davis, David—Physical Therapy
Debrot, Cynthia J.—Clinical Sciences
Deiter, Reitha Heinen—Clinical Sciences
Denger, Sue—Nursing
Derr, William—Physician Assistant
Derstine, William—Counseling
Dill, Robert—Clinical Sciences
Dinsmore, Ann E.—Physical Therapy
Doege, Ken J.—Clinical Sciences
Dorsey, Michael A.—Health, Administration and Gerontology
Dowd, Ron—Clinical Sciences
Downing, Kathy—Clinical Sciences
Dunning, Jacque M.—Clinical Sciences
Eagleton, Beth—Nursing
Eagleton, Morgan—Clinical Sciences
Eagleton, Morgan—Physical Therapy
Eagleton, Morgan—Physical Therapy
Eagleston, Betty L.—Nursing
Ehlers, Zane—Clinical Sciences
Emrich, June—Nursing
Engel, David—Clinical Sciences
Eucrer, Shelley S.—Electrical Engineering
Evans, John E.—Clinical Sciences
Eyster, Robert L.—Physician Assistant
Fetterboh, Jon—Physical Therapy
Fitch, Edward B.—Physical Therapy
Fish, Karinne A.—Physician Assistant
Flowers, Nancy Mackie—Nursing
Floyd, Paula—Nursing
Ford, Peggy—Clinical Sciences
Fox, Deborah A.—Clinical Sciences
Frazey, Jayne—Physical Therapy
Funk, Lem—Physical Therapy
Funk, Judy—Clinical Sciences
Furthwangler, Virginia—English
Gabbert, M. Jane—Physical Therapy
Westfall, Dorothy—Nursing
Whetstone, Sheila D.—Dental Hygiene
Wilgers, Steven D.—Physical Therapy
Willey, Susan—Physical Therapy
Wilson, Anne M.—Physical Therapy
Wilson, Kathleen—Physical Therapy
Wilson, Linda—Clinical Sciences
Winegarner, Robbie—Physical Therapy
Wolfe, Frederick—Nursing
Wooden, Ronda L.—Physical Therapy
Wright, Steven—Clinical Sciences
Yang, Jai H.—Physician Assistant

Applied Music Instructors—Fall, 1988
Joan C. Bonanni
David C. Brody
Amy C. Smith Brown
Daneann Brown
Judith A. Fear
Cheryl Gnad
Nancy L. Hercher
Kristin A. Heslop
Brian Howrey
Janice Jarwarsky
Elizabeth A. Lindal
Leslie Limn
Kevin J. May
Sarah L. McKoin
Paul H. Ouslev
J. Craig Owens
John M. Rakestrau
Linda S. Starkey
Mildred C. Unrau

Lecturers and Adjunct/Faculty Associates—Fall, 1988
Aaron-Leary, S. Leigh—Psychology
Akins, Harold S.—Instructional Services
Allison, Dale C.—Religion
Almer, David D.—Industrial Technology
Alvarez, Steven M.—Mathematics and Statistics
Anders, James E.—Marketing and Small Business
Antrim, Edward L.—Industrial Technology
Argetsinger, Jack E.—Industrial Technology
Arnett, Debra J.—Finance, Real Estate and Decision Sciences
Ashworth, Sherry L.—Intensive English Language Center
Bailey, Hetty S.—Modern and Classical Languages and Literatures
Barber, Mary Patricia—Intensive English Language Center
Barnett, Edward M.—Finance, Real Estate and Decision Sciences
Bell, Gary L.—University College
Berger, Stuart David—Personnel Services
Bieberly, Clifford J.—Journalism
Blankenship, Elmer T.—Journalism
Boggs, William C.—Speech Communication
Bogner, Douglas J.—Instructional Services
Bonner, H. Michael—Mechanical Engineering
Boschmann, Hugo—Biological Sciences
Bouffard, David L.—Marketing and Small Business
Broadway, Jennifer M.—Reading and Study Skills Center
Brown, Douglas Rand—Journalism
Buchanan, Verna E.—Sociology
Cardenas, Michael P.—Mathematics and Statistics
Carson, James R.—School of Accountancy

Carson, Robert F.—Management
Carson, Rebecca S.—Instructional Services
Carter, Stephen L.—Intensive English Language Center
Champeny, Toufic A.—Mathematics and Statistics
Chalhoub, Wael A.—Mathematics and Statistics
Chincher, David M.—Finance, Real Estate and Decision Sciences
Cook, Beverly J.—Dental Hygiene
Cooker, Ralph Charles—Industrial Technology
Cook, Karen E.—English
Dahl, David L.—Marketing and Small Business
Dill, Carolyn J.—Psychology
Dixon, Michael H.—Instructional Services
Dorrity, Jackie R.—Fine Arts CE Program Development
Dunkelberger, Myron Gregg—Instructional Services
Eckert, William G.—Administration of Justice
Eder, Teresa A.—Physical Education
Elliott, Jean B.—Minority Studies
Everhart, Karen L.—Physical Education
Fall, Mildred M.—Business Education
Farmer, Shelly D.—Intensive English Language Center and Modern and Classical Languages and Literatures
Fisher, Nancy M.—Speech Communication
Fisher, Randall E.—Finance, Real Estate and Decision Sciences
Finn, Lynnette M.—Geology
Flickner, Geneva K.—School of Art and Design
Fordham, Craig P.—Health, Administration and Gerontology
Foreman, Diana L.—Intensive English Language Center
Frazer, Max K.—Instructional Services
Fredrickson, Judson Donald—Mathematics and Statistics
Frey, John C.—Instructional Services
Fu, Shuang-Wei Johnny—Electrical Engineering
Garner, Mary Catherine—Nursing
Gear, David H.—Health, Administration and Gerontology
Gray, Margaret A.—Management
Greer, L. Douglas—Instructional Services
Habash, Abraham M.—Mathematics and Statistics
Hajer, Ronda Sue—Intensive English Language Center
Hammon, Carol L.—Women’s Studies
Hampton, Nancy J.—School of Music
Harris, Margo M.—Women’s Studies
Helimann, Charles E.—Sociology
Henderson, Roy B.—Physician Assistant
Henry, Benjamin G.—Instructional Services
Hess, Dennis Rae—Industrial Technology
Hodgkinson, Randall L.—Mathematics and Statistics
Howell, James G.—Instructional Services
Howell, Doris W.—Women’s Studies
Inman, Vaughan W.—Psychology
James, Chester M.—Industrial Technology
Jibbe, Mahmoud—Electrical Engineering
Johnson, H. Dean—Mathematics and Statistics
Johnson, Jane Renee—Speech Communication
Joyner, H. Sajin—Mechanical Engineering
Kapuliyon, J. Michael—Finance, Real Estate and Decision Sciences
Kim, Soon Y.—Physical Education
Klaus, Marilyn E.—Women’s Studies
Klein, Mary E.—English
Kohman, E. James—Electrical Engineering
Kohman, Joan R.—English
Kornelson, John—Physical Education
Lahey, Thomas F.—Dental Hygiene
Larocco, Joanne G.—Nursing
Lavelle, Michael G.—Marketing and Small Business
Lavina, Lynn A.—Biological Sciences
Laws, John R.—Physical Education
Lim, Cheng Huek—Mathematics and Statistics
Lindal, Elizabeth Annette—School of Music
Linden, Barry W.—Psychology
Loehr, Joan C.—Dental Hygiene
Long, Melissa B.—Intensive English Language Center
Loorins, James W., Marketing and Small Business
Lowrey, Annie—Industrial Technology
Lyra, Nazario L.—Intensive English Language Center
Mason, William M.—English
Matson, Linda C.—Sociology
McElhiney, Kevin J.—Finance, Real Estate and Decision Sciences
Mazza, Barbara A.—Intensive English Language Center
McCune, Theresa B.—Speech Communication
McElvain, David D.—Personnel Services
McGuire, Willard L.—Physician Assistant
McLeland, Joe D.—Computer Science
Melton, Gerber C.—Industrial Technology
Meyer, Bertha Ruth—English
Milbradt, Melody Swanson—School of Art and Design
Minard, Barbara J.—Clinical Sciences
Minick, Kathryn S.—Women’s Studies
Murphy, John J.—Finance, Real Estate and Decision Sciences
Naccarato, David F.—Computer Science
Neder, Nader A.—Mathematics and Statistics
Nathan, C. Henry—Journalism
Ng, Mary Joan—Dental Hygiene
Nishigaki, Koichi—Modern and Classical Languages and Literatures
Nordyke, Rebecca S.—Speech Communication
Nystrom, Bruce D.—Psychology
O’Leary, Owen N.—Industrial Engineering
Oehm, John S.—School of Art and Design
Owens, J. Craig—School of Music
Pati, Krish M.—Mechanical Engineering
Pegg, Melany B.—Speech Communication
Pegg, William John—Health, Administration and Gerontology
Peterson, Kevin J.—English
Petersen, Steve L.—Instructional Services
Plummer, Stephen B.—Finance, Real Estate and Decision Sciences
Quinlan-Rus, Linda—English
Racunas, Thomas K.—Instructional Services
Randolph, Philbert W.—Mathematics and Statistics
Razock, Stacia A.—Finance, Real Estate and Decision Sciences
Reddy, Bokka R.—Biological Sciences
Reid, Anne L.—Reading and Study Skills Center
Rheoades, Jane A.—Reading and Study Skills Center
Richards, Jane Anne—Personnel Services
Richardson, Dayna J.—Instructional Services
Risley, Martha Jayne—Reading and Study Skills Center
Roe, J. Myrne—Speech Communication
Rosov, Matthew J.—Mathematics and Statistics
Runyan, Erin Paige—School of Art and Design
Russell, Katherine A.—Nursing
Salmon, Laura P.—Modern and Classical Languages and Literatures
Sanders-West, Karen—Finance, Real Estate and Decision Sciences
Savage, Roger L.—Industrial Technology
Seidl, Loretta J.—Dental Hygiene
Sherman, John K.—English
Shuttleworth, Russell D.—Mathematics and Statistics
Smith, Carla B.—Instructional Services
<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, Mary Jane</td>
<td>School of Art and Design</td>
</tr>
<tr>
<td>Snyder, Barbara G.</td>
<td>Instructional Services</td>
</tr>
<tr>
<td>Sowards, Elizabeth W.</td>
<td>School of Art and Design</td>
</tr>
<tr>
<td>Speary, John P.</td>
<td>School of Performing Arts</td>
</tr>
<tr>
<td>Spencer, Lavona I.</td>
<td>Minority Studies, University College and Women's Studies</td>
</tr>
<tr>
<td>Spoon, Darell G.</td>
<td>School of Performing Arts</td>
</tr>
<tr>
<td>Starkey, Linda S.</td>
<td>School of Music</td>
</tr>
<tr>
<td>Stephenson, George E.</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Stephenson, Patrice M.</td>
<td>Communicative Disorders</td>
</tr>
<tr>
<td>Strohm, Deidre Ann</td>
<td>Women's Studies</td>
</tr>
<tr>
<td>Sutterfield, Joe</td>
<td>Mathematics and Statistics</td>
</tr>
<tr>
<td>Edward</td>
<td></td>
</tr>
<tr>
<td>Swanson, Kjersti</td>
<td>Mathematics and Statistics</td>
</tr>
<tr>
<td>Sweney, Virginia A.</td>
<td>Psychology</td>
</tr>
<tr>
<td>Syring, Delila L.</td>
<td>Speech Communication</td>
</tr>
<tr>
<td>Taylor, Howard H.</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Taylor, Michael G.</td>
<td>Journalism</td>
</tr>
<tr>
<td>Thompson, Betty C.</td>
<td>Minority Studies</td>
</tr>
<tr>
<td>Vogel, Anne M.</td>
<td>Psychology</td>
</tr>
<tr>
<td>Wagner, Tamara Lynn</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Wallentinsen, Derek</td>
<td>Mathematics and Statistics</td>
</tr>
<tr>
<td>Westfall, James D.</td>
<td>Finance, Real Estate and Decision Sciences</td>
</tr>
<tr>
<td>Wheeler, Nancy H.</td>
<td>Speech Communication</td>
</tr>
<tr>
<td>Whetstone, Sheila D.</td>
<td>Dental Hygiene</td>
</tr>
<tr>
<td>Williamson, Don T.</td>
<td>English</td>
</tr>
<tr>
<td>Wilson, John M.</td>
<td>Marketing and Small Business</td>
</tr>
<tr>
<td>Winn, Wynona O.</td>
<td>Personnel Services</td>
</tr>
<tr>
<td>Witts, Brenda Christine</td>
<td>English</td>
</tr>
<tr>
<td>Yang, Sidney Sen-Chi</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>Ylander, Doris J.</td>
<td>Instructional Services</td>
</tr>
<tr>
<td>Zimmerman, William H.</td>
<td>Finance, Real Estate and Decision Sciences</td>
</tr>
<tr>
<td>Index</td>
<td>PAGE</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Abbreviations, departmental</td>
<td>213</td>
</tr>
<tr>
<td>Able Library</td>
<td>27</td>
</tr>
<tr>
<td>Absence letters</td>
<td>15</td>
</tr>
<tr>
<td>Academic achievement, exams for superior achievement</td>
<td>13</td>
</tr>
<tr>
<td>Academic Appeals, Court of Student</td>
<td>16</td>
</tr>
<tr>
<td>Academic honesty</td>
<td>6</td>
</tr>
<tr>
<td>Academic Information</td>
<td>10</td>
</tr>
<tr>
<td>audit</td>
<td>11</td>
</tr>
<tr>
<td>change of grades</td>
<td>12</td>
</tr>
<tr>
<td>classification of students</td>
<td>10</td>
</tr>
<tr>
<td>Commencement</td>
<td>18</td>
</tr>
<tr>
<td>Court of Student Appeals</td>
<td>16</td>
</tr>
<tr>
<td>Credit/No Credit courses</td>
<td>11</td>
</tr>
<tr>
<td>credit by examination</td>
<td>13</td>
</tr>
<tr>
<td>date of Catalog requirements</td>
<td>18</td>
</tr>
<tr>
<td>exemptions for superior achievement</td>
<td>13</td>
</tr>
<tr>
<td>General Education Program</td>
<td>18</td>
</tr>
<tr>
<td>General Studies courses</td>
<td>72</td>
</tr>
<tr>
<td>grading system</td>
<td>11</td>
</tr>
<tr>
<td>graduate credit for seniors</td>
<td>14</td>
</tr>
<tr>
<td>graduation requirements</td>
<td>16</td>
</tr>
<tr>
<td>Honors Program, Emory Lindquist</td>
<td>14</td>
</tr>
<tr>
<td>independent study</td>
<td>14</td>
</tr>
<tr>
<td>meaning of course numbers</td>
<td>10</td>
</tr>
<tr>
<td>probation and dismissal</td>
<td>15</td>
</tr>
<tr>
<td>progress reports</td>
<td>15</td>
</tr>
<tr>
<td>requirement, academic</td>
<td>15</td>
</tr>
<tr>
<td>registration</td>
<td>10</td>
</tr>
<tr>
<td>second bachelor's degree</td>
<td>18</td>
</tr>
<tr>
<td>transition of credits</td>
<td>19</td>
</tr>
<tr>
<td>transition semester</td>
<td>12</td>
</tr>
<tr>
<td>withdrawal</td>
<td>15</td>
</tr>
<tr>
<td>Academic recognition</td>
<td>16</td>
</tr>
<tr>
<td>Access to student records</td>
<td>7</td>
</tr>
<tr>
<td>Accident or injury</td>
<td>7</td>
</tr>
<tr>
<td>Accounting</td>
<td>38</td>
</tr>
<tr>
<td>Accreditation and associations, University</td>
<td>39</td>
</tr>
<tr>
<td>Address, reporting change of</td>
<td>10</td>
</tr>
<tr>
<td>Administration of justice</td>
<td>138</td>
</tr>
<tr>
<td>Admission Information</td>
<td>7</td>
</tr>
<tr>
<td>degree bound</td>
<td>7</td>
</tr>
<tr>
<td>freshman</td>
<td>7</td>
</tr>
<tr>
<td>graduate students</td>
<td>8</td>
</tr>
<tr>
<td>international students</td>
<td>8</td>
</tr>
<tr>
<td>double-lined</td>
<td>9</td>
</tr>
<tr>
<td>transfers</td>
<td>9</td>
</tr>
<tr>
<td>non-degree bound</td>
<td>9</td>
</tr>
<tr>
<td>guest students</td>
<td>9</td>
</tr>
<tr>
<td>open admission students</td>
<td>9</td>
</tr>
<tr>
<td>requirements for each college, See individual colleges</td>
<td>10</td>
</tr>
<tr>
<td>residence defined</td>
<td>10</td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>13</td>
</tr>
<tr>
<td>credit</td>
<td>33</td>
</tr>
<tr>
<td>Advertising/Public Relations</td>
<td>162</td>
</tr>
<tr>
<td>Advising, academic</td>
<td>32</td>
</tr>
<tr>
<td>Aerospace engineering</td>
<td>78</td>
</tr>
<tr>
<td>American studies</td>
<td>141</td>
</tr>
<tr>
<td>Anthropology</td>
<td>142</td>
</tr>
<tr>
<td>Application for degree card</td>
<td>6</td>
</tr>
<tr>
<td>Accounting</td>
<td>16</td>
</tr>
<tr>
<td>Applied music</td>
<td>85</td>
</tr>
<tr>
<td>Applied music instructors</td>
<td>87</td>
</tr>
<tr>
<td>Army ROTC</td>
<td>98</td>
</tr>
<tr>
<td>Art collection, University</td>
<td>28</td>
</tr>
<tr>
<td>Art and Design, School of. See also Fine Arts, College of</td>
<td>89</td>
</tr>
<tr>
<td>Art, College of</td>
<td>89</td>
</tr>
<tr>
<td>Art education</td>
<td>90</td>
</tr>
<tr>
<td>Art history</td>
<td>95</td>
</tr>
<tr>
<td>Astronomy. See also Physics</td>
<td>137</td>
</tr>
<tr>
<td>Attendance, class</td>
<td>6</td>
</tr>
<tr>
<td>Audiology</td>
<td>58</td>
</tr>
<tr>
<td>Audit courses, fees for</td>
<td>11</td>
</tr>
<tr>
<td>Audit</td>
<td>58</td>
</tr>
<tr>
<td>Audit, grade of</td>
<td>11</td>
</tr>
<tr>
<td>Auditor</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable television</td>
<td>27</td>
</tr>
<tr>
<td>Calendar, academic</td>
<td>4</td>
</tr>
<tr>
<td>Campus Activities Center</td>
<td>27</td>
</tr>
<tr>
<td>Campus Map</td>
<td>214</td>
</tr>
<tr>
<td>Career/placement</td>
<td>33</td>
</tr>
<tr>
<td>Career services, placement and</td>
<td>41</td>
</tr>
<tr>
<td>Ceramics</td>
<td>95</td>
</tr>
<tr>
<td>Cesna Stadium</td>
<td>29</td>
</tr>
<tr>
<td>Change of address, reporting</td>
<td>10</td>
</tr>
<tr>
<td>Change of grades</td>
<td>12</td>
</tr>
<tr>
<td>Change of major</td>
<td>26</td>
</tr>
<tr>
<td>Chemistry</td>
<td>148</td>
</tr>
<tr>
<td>Chinese</td>
<td>174</td>
</tr>
<tr>
<td>Classical studies</td>
<td>177</td>
</tr>
<tr>
<td>Collections and Research Data for Sports</td>
<td>21</td>
</tr>
<tr>
<td>Commencement</td>
<td>18</td>
</tr>
<tr>
<td>Communicative disorders</td>
<td>55</td>
</tr>
<tr>
<td>communication sciences</td>
<td>57</td>
</tr>
<tr>
<td>deal education</td>
<td>57</td>
</tr>
<tr>
<td>general education</td>
<td>57</td>
</tr>
<tr>
<td>speech and language</td>
<td>57</td>
</tr>
<tr>
<td>psychology</td>
<td>57</td>
</tr>
<tr>
<td>Communication</td>
<td>152</td>
</tr>
<tr>
<td>Communications</td>
<td>156</td>
</tr>
<tr>
<td>Computer science</td>
<td>28</td>
</tr>
<tr>
<td>Computing Center</td>
<td>28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dance</td>
<td>108</td>
</tr>
<tr>
<td>Date of Catalog requirements</td>
<td>18</td>
</tr>
<tr>
<td>Deal education</td>
<td>99</td>
</tr>
<tr>
<td>Dean's Honor Roll</td>
<td>15</td>
</tr>
<tr>
<td>Decision Sciences</td>
<td>44</td>
</tr>
<tr>
<td>Degrees</td>
<td>135</td>
</tr>
<tr>
<td>Associate of Science</td>
<td>135</td>
</tr>
<tr>
<td>Administration of Justice</td>
<td>135</td>
</tr>
<tr>
<td>dental hygiene</td>
<td>113</td>
</tr>
<tr>
<td>legal assistant</td>
<td>41</td>
</tr>
<tr>
<td>respiratory therapy</td>
<td>132</td>
</tr>
<tr>
<td>secretarial training</td>
<td>41</td>
</tr>
<tr>
<td>Bachelor of Art</td>
<td>90</td>
</tr>
<tr>
<td>Education</td>
<td>90</td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td>135</td>
</tr>
<tr>
<td>Bachelor of Business Administration</td>
<td>135</td>
</tr>
<tr>
<td>Bachelor of Fine Arts</td>
<td>37</td>
</tr>
<tr>
<td>Bachelor of General Studies</td>
<td>37</td>
</tr>
<tr>
<td>Bachelor of Health Sciences</td>
<td>118</td>
</tr>
<tr>
<td>Bachelor of Music</td>
<td>118</td>
</tr>
<tr>
<td>Bachelor of Music Education</td>
<td>101</td>
</tr>
<tr>
<td>Bachelor of Science Engineering</td>
<td>76</td>
</tr>
<tr>
<td>health professions</td>
<td>112</td>
</tr>
<tr>
<td>liberal arts</td>
<td>135</td>
</tr>
<tr>
<td>master's degrees</td>
<td>135</td>
</tr>
<tr>
<td>doctoral degrees</td>
<td>135</td>
</tr>
<tr>
<td>Dental hygiene</td>
<td>113</td>
</tr>
<tr>
<td>Departmental abbreviations</td>
<td>213</td>
</tr>
<tr>
<td>Departmental fees</td>
<td>20</td>
</tr>
<tr>
<td>Departmental honors</td>
<td>14</td>
</tr>
<tr>
<td>Description of University</td>
<td>15</td>
</tr>
<tr>
<td>Dismissal standards, probation and. See also individual colleges</td>
<td>15</td>
</tr>
<tr>
<td>Doktoral program halls</td>
<td>21</td>
</tr>
<tr>
<td>Double-lined</td>
<td>21</td>
</tr>
<tr>
<td>Down reports</td>
<td>15</td>
</tr>
<tr>
<td>Drawing</td>
<td>96</td>
</tr>
<tr>
<td>Drop fee</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early childhood</td>
<td>64</td>
</tr>
<tr>
<td>Economic Development and Business Research, Center for</td>
<td>25</td>
</tr>
<tr>
<td>Economists</td>
<td>38</td>
</tr>
<tr>
<td>librarians</td>
<td>45</td>
</tr>
<tr>
<td>liberal arts and sciences</td>
<td>160</td>
</tr>
<tr>
<td>Education, College of</td>
<td>52</td>
</tr>
<tr>
<td>English</td>
<td>52</td>
</tr>
<tr>
<td>Accreditation</td>
<td>52</td>
</tr>
<tr>
<td>admission</td>
<td>52</td>
</tr>
<tr>
<td>certification</td>
<td>53</td>
</tr>
<tr>
<td>Department</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>combined curricula</td>
<td>55</td>
</tr>
<tr>
<td>communicative disorders and sciences</td>
<td>54, 55</td>
</tr>
<tr>
<td>cooperative education</td>
<td>53</td>
</tr>
<tr>
<td>counseling and school psychology</td>
<td>70</td>
</tr>
<tr>
<td>degree requirements</td>
<td>53</td>
</tr>
<tr>
<td>degrees offered</td>
<td>52</td>
</tr>
<tr>
<td>elementary education</td>
<td>54</td>
</tr>
<tr>
<td>general education requirements</td>
<td>33</td>
</tr>
<tr>
<td>general polices of</td>
<td>112</td>
</tr>
<tr>
<td>graduation requirements</td>
<td>115</td>
</tr>
<tr>
<td>industrial technology</td>
<td>59</td>
</tr>
<tr>
<td>instructional services</td>
<td>63</td>
</tr>
<tr>
<td>majors and minors, secondary</td>
<td>56</td>
</tr>
<tr>
<td>military science</td>
<td>53</td>
</tr>
<tr>
<td>music education</td>
<td>70, 103</td>
</tr>
<tr>
<td>natural sciences</td>
<td>55</td>
</tr>
<tr>
<td>personnel services</td>
<td>70</td>
</tr>
<tr>
<td>physical education, health and recreation</td>
<td>73</td>
</tr>
<tr>
<td>probation and dismissal</td>
<td>53</td>
</tr>
<tr>
<td>professional education requirements</td>
<td>54</td>
</tr>
<tr>
<td>secondary education requirements</td>
<td>55</td>
</tr>
<tr>
<td>secondary teaching fields</td>
<td>55</td>
</tr>
<tr>
<td>social studies</td>
<td>55</td>
</tr>
<tr>
<td>teacher education</td>
<td>52</td>
</tr>
<tr>
<td>Educational administration and supervision</td>
<td>71</td>
</tr>
<tr>
<td>Educational psychology</td>
<td>64</td>
</tr>
<tr>
<td>Electrical engineering</td>
<td>81</td>
</tr>
<tr>
<td>Electronic Media/Visual Communication</td>
<td>154</td>
</tr>
<tr>
<td>Elementary education</td>
<td>54, 66</td>
</tr>
<tr>
<td>Emergency medical care training, basic</td>
<td>113</td>
</tr>
<tr>
<td>Emory Lindquist Honors Program</td>
<td>14</td>
</tr>
<tr>
<td>Employment, student</td>
<td>21</td>
</tr>
<tr>
<td>Endowment Association</td>
<td>22</td>
</tr>
<tr>
<td>Endowed Professors</td>
<td>22</td>
</tr>
<tr>
<td>Endowed Scholarships</td>
<td>22</td>
</tr>
<tr>
<td>Energy Studies, WSU Center for</td>
<td>27</td>
</tr>
<tr>
<td>Engineering, College of</td>
<td>9</td>
</tr>
<tr>
<td>aerospace</td>
<td>78</td>
</tr>
<tr>
<td>cooperative education program</td>
<td>77</td>
</tr>
<tr>
<td>core curriculum</td>
<td>77</td>
</tr>
<tr>
<td>electrical</td>
<td>81</td>
</tr>
<tr>
<td>entrance requirements</td>
<td>76</td>
</tr>
<tr>
<td>general engineering curriculum</td>
<td>77</td>
</tr>
<tr>
<td>graduate work</td>
<td>6</td>
</tr>
<tr>
<td>industrial</td>
<td>63</td>
</tr>
<tr>
<td>management science</td>
<td>76</td>
</tr>
<tr>
<td>mechanical</td>
<td>86</td>
</tr>
<tr>
<td>probate and dismissal standards</td>
<td>76</td>
</tr>
<tr>
<td>requirements, general</td>
<td>77</td>
</tr>
<tr>
<td>English language and literature</td>
<td>160</td>
</tr>
<tr>
<td>Entrepreneurship and Small Business Management</td>
<td>25</td>
</tr>
<tr>
<td>Center for</td>
<td></td>
</tr>
<tr>
<td>Examination fees</td>
<td>20</td>
</tr>
<tr>
<td>Examinations</td>
<td>11</td>
</tr>
<tr>
<td>External credit</td>
<td>135</td>
</tr>
<tr>
<td>Exemptions for superior achievement</td>
<td>13</td>
</tr>
<tr>
<td>F</td>
<td></td>
</tr>
<tr>
<td>Facilities</td>
<td>27</td>
</tr>
<tr>
<td>Ablation Library</td>
<td>27</td>
</tr>
<tr>
<td>Cable Television</td>
<td>27</td>
</tr>
<tr>
<td>Campus Activities Center</td>
<td>27</td>
</tr>
<tr>
<td>Computer Laboratory</td>
<td>27</td>
</tr>
<tr>
<td>Computing Center</td>
<td>27</td>
</tr>
<tr>
<td>Haskell, Gracienne Memorial Chapel</td>
<td>28</td>
</tr>
<tr>
<td>Helpem International Center</td>
<td>28</td>
</tr>
<tr>
<td>Heskett Center</td>
<td>28</td>
</tr>
<tr>
<td>Institute of Logopedics</td>
<td>28</td>
</tr>
<tr>
<td>KWAN Radio</td>
<td>28</td>
</tr>
<tr>
<td>Media Resource Center</td>
<td>29</td>
</tr>
<tr>
<td>Reading/Study Skills Center</td>
<td>29</td>
</tr>
<tr>
<td>Rehabilitation Engineering Center</td>
<td>29</td>
</tr>
<tr>
<td>Satellite Television</td>
<td>29</td>
</tr>
<tr>
<td>Social Science Research Laboratory</td>
<td>29</td>
</tr>
<tr>
<td>Speech-Language—Hearing Clinic</td>
<td>29</td>
</tr>
<tr>
<td>sports and recreation</td>
<td>29</td>
</tr>
<tr>
<td>Ulrich Museum, Edwin A.</td>
<td>28</td>
</tr>
<tr>
<td>Wichita Radio Reading Service</td>
<td>28</td>
</tr>
<tr>
<td>Wiedemann Hall</td>
<td>30</td>
</tr>
<tr>
<td>wind training</td>
<td>38</td>
</tr>
<tr>
<td>Faculty</td>
<td>194</td>
</tr>
<tr>
<td>adjunct</td>
<td>205</td>
</tr>
<tr>
<td>applied music instructors</td>
<td>207</td>
</tr>
<tr>
<td>lecturers</td>
<td>207</td>
</tr>
<tr>
<td>retired</td>
<td>205</td>
</tr>
<tr>
<td>Fairmont College of Liberal Arts and Sciences</td>
<td>134</td>
</tr>
<tr>
<td>scientific departments, listed alphabetically</td>
<td>134</td>
</tr>
<tr>
<td>admission requirements</td>
<td>134</td>
</tr>
<tr>
<td>degree requirements</td>
<td>135</td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td>135</td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>135</td>
</tr>
<tr>
<td>music</td>
<td>135</td>
</tr>
<tr>
<td>external credit</td>
<td>135</td>
</tr>
<tr>
<td>field major</td>
<td>136</td>
</tr>
<tr>
<td>graduate degrees offered</td>
<td>134</td>
</tr>
<tr>
<td>professional programs</td>
<td>137</td>
</tr>
<tr>
<td>probation and dismissal standards</td>
<td>134</td>
</tr>
<tr>
<td>special programs of study</td>
<td>137</td>
</tr>
<tr>
<td>Federal grants and loans</td>
<td>21</td>
</tr>
<tr>
<td>Fees. See also Financial Information</td>
<td>19</td>
</tr>
<tr>
<td>Field major</td>
<td>136</td>
</tr>
<tr>
<td>Film studies minor</td>
<td>164</td>
</tr>
<tr>
<td>Finance major</td>
<td>39, 47</td>
</tr>
<tr>
<td>Financial aid</td>
<td>21</td>
</tr>
<tr>
<td>Financial information</td>
<td>21</td>
</tr>
<tr>
<td>fees</td>
<td>19</td>
</tr>
<tr>
<td>assessment and collection</td>
<td>21</td>
</tr>
<tr>
<td>audit course</td>
<td>20</td>
</tr>
<tr>
<td>credit by examination</td>
<td>13, 20</td>
</tr>
<tr>
<td>departmental</td>
<td>20</td>
</tr>
<tr>
<td>dormitory</td>
<td>21</td>
</tr>
<tr>
<td>drop</td>
<td>21</td>
</tr>
<tr>
<td>examination</td>
<td>20</td>
</tr>
<tr>
<td>Heskett Center</td>
<td>20</td>
</tr>
<tr>
<td>laboratory</td>
<td>20</td>
</tr>
<tr>
<td>late enrollment</td>
<td>20</td>
</tr>
<tr>
<td>music—free courses</td>
<td>21</td>
</tr>
<tr>
<td>off-campus courses and workshops</td>
<td>20</td>
</tr>
<tr>
<td>period of payment</td>
<td>21</td>
</tr>
<tr>
<td>refusals</td>
<td>21</td>
</tr>
<tr>
<td>senior citizen fee waiver</td>
<td>21</td>
</tr>
<tr>
<td>special</td>
<td>20</td>
</tr>
<tr>
<td>student</td>
<td>20</td>
</tr>
<tr>
<td>testing</td>
<td>83</td>
</tr>
<tr>
<td>unpaid</td>
<td>21</td>
</tr>
<tr>
<td>waiver policy</td>
<td>21</td>
</tr>
<tr>
<td>workshop</td>
<td>20</td>
</tr>
<tr>
<td>tuition</td>
<td>20</td>
</tr>
<tr>
<td>financial aid</td>
<td>21</td>
</tr>
<tr>
<td>housing fees</td>
<td>21</td>
</tr>
<tr>
<td>Fine Arts, College of admission</td>
<td>89</td>
</tr>
<tr>
<td>degree offered</td>
<td>89</td>
</tr>
<tr>
<td>degree offered</td>
<td>89</td>
</tr>
<tr>
<td>School of Art and Design</td>
<td>89</td>
</tr>
<tr>
<td>art education</td>
<td>91</td>
</tr>
<tr>
<td>art history</td>
<td>92</td>
</tr>
<tr>
<td>degree requirements</td>
<td>91</td>
</tr>
<tr>
<td>degree requirements for students in other colleges</td>
<td>91, 92</td>
</tr>
<tr>
<td>general policies of</td>
<td>89</td>
</tr>
<tr>
<td>graduate studies</td>
<td>89</td>
</tr>
<tr>
<td>graduation requirements for degrees</td>
<td>90</td>
</tr>
<tr>
<td>graphic design-commercial art</td>
<td>93</td>
</tr>
<tr>
<td>studio arts</td>
<td>94</td>
</tr>
<tr>
<td>School of Music</td>
<td>98</td>
</tr>
<tr>
<td>applied music regulations</td>
<td>98</td>
</tr>
<tr>
<td>Bachelor of Music</td>
<td>99</td>
</tr>
<tr>
<td>degree</td>
<td>99</td>
</tr>
<tr>
<td>Bachelor of Music Education</td>
<td>101</td>
</tr>
<tr>
<td>degree requirements</td>
<td>101</td>
</tr>
<tr>
<td>degree requirements for students in other colleges</td>
<td>102</td>
</tr>
<tr>
<td>graduate studies</td>
<td>89</td>
</tr>
<tr>
<td>graduation requirements</td>
<td>98</td>
</tr>
<tr>
<td>music education</td>
<td>101, 103</td>
</tr>
<tr>
<td>music performance (applied)</td>
<td>99, 105</td>
</tr>
<tr>
<td>musicology—composition</td>
<td>99, 106</td>
</tr>
<tr>
<td>proficiency examinations</td>
<td>99</td>
</tr>
<tr>
<td>recitals</td>
<td>99</td>
</tr>
<tr>
<td>probation and dismissal</td>
<td>108</td>
</tr>
<tr>
<td>School of Performing Arts</td>
<td>109</td>
</tr>
<tr>
<td>dance</td>
<td>109</td>
</tr>
<tr>
<td>theatre</td>
<td>109</td>
</tr>
<tr>
<td>Forensic Sciences, Helperm International Center for</td>
<td>28</td>
</tr>
<tr>
<td>Foundations of education</td>
<td>66</td>
</tr>
<tr>
<td>Fraternities</td>
<td>30</td>
</tr>
<tr>
<td>French</td>
<td>174</td>
</tr>
<tr>
<td>French Student Exchange Program</td>
<td>26</td>
</tr>
<tr>
<td>Freshman admission</td>
<td>7</td>
</tr>
<tr>
<td>Freshman classification</td>
<td>10</td>
</tr>
<tr>
<td>G</td>
<td></td>
</tr>
<tr>
<td>General Education Program</td>
<td>16</td>
</tr>
<tr>
<td>General Studies, Bachelor of</td>
<td>135</td>
</tr>
<tr>
<td>General Studies courses</td>
<td>17</td>
</tr>
<tr>
<td>Geography</td>
<td>162</td>
</tr>
<tr>
<td>Geology</td>
<td>164</td>
</tr>
<tr>
<td>field geology, summer program</td>
<td>19</td>
</tr>
<tr>
<td>Geographic Sciences. See individual departments,</td>
<td>175</td>
</tr>
<tr>
<td>list alphabetically</td>
<td>115</td>
</tr>
<tr>
<td>Gerontology</td>
<td>115</td>
</tr>
<tr>
<td>Gerontology Center, University</td>
<td>127</td>
</tr>
<tr>
<td>Government, student</td>
<td>30</td>
</tr>
<tr>
<td>Gradebook and Chapel</td>
<td>128</td>
</tr>
<tr>
<td>Grade, meaning of</td>
<td>11</td>
</tr>
<tr>
<td>Grade point average</td>
<td>12</td>
</tr>
<tr>
<td>Grades, changing of</td>
<td>12</td>
</tr>
<tr>
<td>Grading system</td>
<td>11</td>
</tr>
<tr>
<td>Graduate credit for seniors</td>
<td>14</td>
</tr>
<tr>
<td>Graduate degrees</td>
<td>18</td>
</tr>
<tr>
<td>Graduate School</td>
<td>18</td>
</tr>
<tr>
<td>Graduate student admission</td>
<td>9</td>
</tr>
<tr>
<td>Graduation requirements for seniors</td>
<td>16</td>
</tr>
<tr>
<td>date of Catalog</td>
<td>18</td>
</tr>
<tr>
<td>General Education Program</td>
<td>16</td>
</tr>
<tr>
<td>General Studies courses</td>
<td>17</td>
</tr>
<tr>
<td>Grants</td>
<td>22</td>
</tr>
<tr>
<td>Graphic design</td>
<td>93</td>
</tr>
<tr>
<td>Greek</td>
<td>176</td>
</tr>
<tr>
<td>Guest student admission</td>
<td>9</td>
</tr>
<tr>
<td>H</td>
<td></td>
</tr>
<tr>
<td>Handicapped Services</td>
<td>25</td>
</tr>
<tr>
<td>Health administration</td>
<td>116</td>
</tr>
<tr>
<td>Health and hospitalization, student</td>
<td>25</td>
</tr>
<tr>
<td>Health Care Administration</td>
<td>116</td>
</tr>
<tr>
<td>Health Professions</td>
<td>117</td>
</tr>
<tr>
<td>College of</td>
<td>112</td>
</tr>
<tr>
<td>office of accreditation</td>
<td>112</td>
</tr>
<tr>
<td>admission</td>
<td>112</td>
</tr>
<tr>
<td>basic emergency medical care</td>
<td>113</td>
</tr>
<tr>
<td>clinical affiliation</td>
<td>113</td>
</tr>
<tr>
<td>cooperative education</td>
<td>113</td>
</tr>
<tr>
<td>credit by examination</td>
<td>112</td>
</tr>
<tr>
<td>degree requirements</td>
<td>113</td>
</tr>
<tr>
<td>degrees</td>
<td>112</td>
</tr>
<tr>
<td>graduate</td>
<td>112</td>
</tr>
<tr>
<td>undergraduate</td>
<td>112</td>
</tr>
<tr>
<td>dental hygiene</td>
<td>113</td>
</tr>
<tr>
<td>financial aid</td>
<td>175</td>
</tr>
<tr>
<td>gerontology</td>
<td>115</td>
</tr>
<tr>
<td>health care administration</td>
<td>116</td>
</tr>
<tr>
<td>health science</td>
<td>118</td>
</tr>
<tr>
<td>liability insurance</td>
<td>112</td>
</tr>
<tr>
<td>medical record administration</td>
<td>120</td>
</tr>
<tr>
<td>medical technology</td>
<td>120</td>
</tr>
<tr>
<td>nursing</td>
<td>123</td>
</tr>
<tr>
<td>school nurse</td>
<td>127</td>
</tr>
<tr>
<td>physical therapy</td>
<td>127</td>
</tr>
<tr>
<td>physician assistant</td>
<td>129</td>
</tr>
<tr>
<td>probation and dismissal</td>
<td>112</td>
</tr>
<tr>
<td>progression</td>
<td>112</td>
</tr>
<tr>
<td>respiratory therapy</td>
<td>131</td>
</tr>
<tr>
<td>Health science</td>
<td>118</td>
</tr>
<tr>
<td>Helpem International Center</td>
<td>28</td>
</tr>
<tr>
<td>Henry Levit Arena</td>
<td>29</td>
</tr>
<tr>
<td>Heskett Center</td>
<td>28</td>
</tr>
<tr>
<td>History</td>
<td>167</td>
</tr>
<tr>
<td>History, University</td>
<td>6</td>
</tr>
<tr>
<td>Honesty, academic</td>
<td>6</td>
</tr>
<tr>
<td>Honer, Dean's</td>
<td>15</td>
</tr>
<tr>
<td>Honors, departmental</td>
<td>14</td>
</tr>
<tr>
<td>Honors, graduation with</td>
<td>15</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Student union</td>
<td>27</td>
</tr>
<tr>
<td>Students from other universities, admission of</td>
<td>8</td>
</tr>
<tr>
<td>Studio arts</td>
<td>94</td>
</tr>
<tr>
<td>Study skills center</td>
<td>29</td>
</tr>
<tr>
<td>Summa cum laude</td>
<td>15</td>
</tr>
<tr>
<td>Summer program in France</td>
<td>19</td>
</tr>
<tr>
<td>Summer program in Mexico</td>
<td>19</td>
</tr>
<tr>
<td>Summer Session</td>
<td>19</td>
</tr>
<tr>
<td>admission requirements</td>
<td>19</td>
</tr>
<tr>
<td>fees</td>
<td>19</td>
</tr>
<tr>
<td>special summer programs</td>
<td>19</td>
</tr>
<tr>
<td>field geology</td>
<td>19</td>
</tr>
<tr>
<td>Study Abroad Programs</td>
<td>19</td>
</tr>
<tr>
<td>workshops</td>
<td>19</td>
</tr>
<tr>
<td>Supersonic and Walter H. Beech Wind Tunnels</td>
<td>30</td>
</tr>
<tr>
<td>Superior achievement, exemptions for</td>
<td>13</td>
</tr>
<tr>
<td>Symbols, key to course</td>
<td>213</td>
</tr>
</tbody>
</table>

T

Teaching, liberal arts program. See also Education, College of        138

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theatre</td>
<td>109</td>
</tr>
<tr>
<td>Transfer of credits within the University</td>
<td>11</td>
</tr>
<tr>
<td>Transfer students admission</td>
<td>8</td>
</tr>
<tr>
<td>Transition semester</td>
<td>12, 33</td>
</tr>
<tr>
<td>Tuition</td>
<td>20</td>
</tr>
</tbody>
</table>

U

University College                                                    | 32   |
| academic advising                                                    | 32   |
| academic opportunities                                               | 32   |
| advanced placement and credit                                        | 33   |
| first semester                                                       | 33   |
| General Education Program                                            | 33   |
| transition semester                                                   | 33   |
| academic regulations                                                 | 33   |
| probation and dismissal                                              | 34   |
| readmission                                                          | 34   |
| admission                                                             | 32   |
| Career/Life Planning                                                 | 33   |
| courses                                                               | 34   |
| orientation                                                           | 32   |
| student responsibility                                               | 33   |
| transferring to a degree-granting college                            | 33   |

V

Veterans and military services (see Financial Aid)                    | 21   |
| Visual Communication                                                 | 154  |

W

Wichita Radio Reading Service                                         | 30   |
| Wiedemann Hall                                                       | 30   |
| Wind tunnels                                                         | 30   |
| Withdrawal                                                           | 15   |
| administrative                                                       | 15   |
| voluntary                                                            | 15   |
| Women's studies                                                      | 192  |
| Women's Studies, Center for                                         | 25   |
| Workshops                                                            | 20   |
| Work-study program                                                  | 21   |
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 six to eight hours of practicum per week).

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

Acct. Accounting
AE Aerospace engineering
Aj Administration of justice
Am. St. American studies
Anthr. Anthropology
Art E. Art education
Art F. Art and design foundation
Art G. Graphic design
Art H. Art history
Art S. Studio arts
Av. Mgt. Aviation management
B. Law Business law
Biol. Biological sciences
Bus. E. Business education
CDS Communicative disorders and sciences
Chem. Chemistry
Chin. Chinese
Comm. Communication
CS Computer science
CSP Counseling and school psychology
Dance Dance
DH Dental hygiene
DS Decision sciences
EAS Educational administration and supervision
Econ. Economics
EE Electrical engineering
Engl. English language and literature
Engr. General engineering
Fin. Finance
Fren. French
Geog. Geography
Geol. Geology
Germ. German
Geron. Gerontology
HAE Health administration and education
Hist. History
Hrs. Honors Program
HS Health sciences
I. En. Industrial engineering
I. Tec. Industrial technology
IS Instructional services
ISEC IS, early childhood education
ISEE IS, elementary education
ISEP IS, educational psychology
ISFE IS, foundations of education
ISLS IS, library science
ISSE IS, secondary education
ISSP IS, special education
Ital. Italian
Japan Japanese
LAS-1 Liberal arts interdisciplinary
Latin Latin
Legal Legal assistant
Ling. Linguistics
Math. Mathematics
ME Mechanical engineering
Med. T. Medical technology
Mgmt. Management
Min. St. Minority studies
Mkt. Marketing
MS Military science
Mus. A. Applied music
Mus. C. Musicology-composition
Mus. E. Music education
Mus. P. Music performance
Nurs. Nursing
PA Physician assistant
P. Adm. Public administration
PE Physical education, health and recreation
PE-R Physical education-recreation
Pers. Personnel administration
Phil. Philosophy
Phys. Physics
Pol. S. Political science
Port. Portuguese
Psy. Psychology
PT Physical therapy
RE Real estate and land use economics
Rel. Religion
RT Respiratory therapy
Russ. Russian
S. Bus. Small business/entrepreneurship
Sc. Wk. Social work
Span. Spanish
Soc. Sociology
Stat. Statistics
Thea. Theatre
UC University College
Wom. S. Women's studies
Map Legend
Facilities are identified with a letter corresponding to their location on the map.

Buildings
Abiah Library (D)
Ahlberg Hall (C)
Blake Hall (B)
Brennan Hall I (C)
Brennan Hall II (C)
Brennan Hall III (C)
Business Education Building (C)
Campus Activities Center (C)
CAC Theater (C)
Central Energy Plant (D)
Cessna Stadium (C)
Clinton Hall, R.P. (C)
Communications Building (B)
Corbin Education Center (D)
Credit Union (D)
* Devlin Hall (C)
Duerksen Fine Arts Center (B)
Eck Stadium (E)
Edwin A. Ulrich Museum of Art (B)
Engineering Building (D)
Fairmount Towers Commons (A)
Fairmount Towers North (A)
Fairmount Towers South (A)
Fiske Hall (B)
Gaddis Physical Plant Complex (D, E)
Gardner Plaza, Glen E. (C)
Golf Course Maintenance Building (E)
Golf Pro Shop (F)
Grace Memorial Chapel, Harvey D. (C)
Grace Wilkie Hall (D)
Henriot Hall (C)
Heskett Center (D)
Housing Maintenance Shop (A)
Hubbard Hall, R.D. (C)
Industrial Technology (C, D)
* Institute for Aviation Research (E)
Intensive English Language Center (A)
Jardine Hall (C)
Levitt Arena (B)
Liberal Arts and Sciences Building (C)
Lutheran Student Center (D)
Marcus Center for Continuing Education (F)
Mathematics-Physics Building (C)
McKinley Hall (B)
McKnight Art Center (B)
Media Resources Center (D)
Memorial '70 (B)
Morrison Hall (C)
Neff Hall (C, D)
Newman Center (D)
Old Alumni House (C)
Old Physical Plant (D)
Old Preschool (C)
Original Pizza Hut (D)
Police Department (Dj)
** Preschool, University (A)
President's Residence (B)
Tyler Field at Eck Stadium (E)
University Alumni and Faculty Club (F)
Wallace Hall (D)
Wiedemann Hall (B)
Wilner Auditorium (B)
Woodman Alumni Center, K.T. and Mary Inez (F)

Fraternities
Alpha Tau Omega (B)
Beta Theta Pi (A)
Delta Upsilon (C)
Kappa Sigma (B)
Phi Delta Theta (C)
Pi Kappa Alpha (D)
Sigma Alpha Epsilon (B)
Sigma Phi Epsilon (C)

Sororities
Alpha Phi (D)
Delta Delta Delta (D)
Delta Gamma (D)
Gamma Phi Beta (D)

* Under construction
** Proposed site

Wichita State has an ongoing program to provide full access to all buildings for the handicapped; however, some barriers still exist. For information regarding any campus building's accessibility to the handicapped, call the Office of Handicapped Services, (316) 689-3309.

Visitors to the Wichita State campus should obtain temporary parking permits from the Police Department, open 24 hours a day.
# Degrees and Academic Majors by College at The Wichita State University

<table>
<thead>
<tr>
<th>College and Area</th>
<th>Degree</th>
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<tbody>
<tr>
<td>W. FRANK BARTON SCHOOL OF BUSINESS</td>
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<tr>
<td>Accounting</td>
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<tr>
<td>Administration</td>
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<td>Aviation Management</td>
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<tr>
<td>Economics</td>
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<tr>
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<td>International Business</td>
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<td>Legal Assistant</td>
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<td>Management</td>
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<td>Marketing</td>
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<td>Personnel Administration</td>
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<td>Real Estate &amp; Land Use Economics</td>
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<td>COLLEGE OF EDUCATION</td>
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<tr>
<td>Communicative Disorders &amp; Sciences</td>
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<tr>
<td>Counseling or School Psychology</td>
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<tr>
<td>Educational Administration &amp; Supervision</td>
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<td>Elementary Education</td>
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<td>industrial Technology</td>
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<td>Physical Education</td>
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<td>Science Education</td>
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<td>Secondary Education</td>
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<td>COLLEGE OF ENGINEERING</td>
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<tr>
<td>Aerospace Engineering</td>
<td>B M D</td>
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<tr>
<td>Electrical Engineering</td>
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<th>College and Area</th>
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<td>Mechanical Engineering</td>
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<td>COLLEGE OF FINE ARTS</td>
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<td>Graphic Design</td>
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<td>Dance</td>
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<td>Theatre</td>
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<td>Studio Arts</td>
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<td>COLLEGE OF HEALTH PROFESSIONS</td>
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<tr>
<td>Dental Hygiene</td>
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<td>Emergency Medical Training</td>
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<td>Gerontology</td>
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<tr>
<td>Health Care Administration</td>
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<td>Health Sciences</td>
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<td>Dental Hygiene</td>
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<td>Physician Assistant</td>
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<td>Respiratory Therapy</td>
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<td>Medical Record Administration</td>
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C = Certificate  B = Baccalaureate  S = Specialist  A = Associate  M = Master  D = Doctorate
### Degrees and Academic Majors by College
at The Wichita State University

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<thead>
<tr>
<th>College and Area</th>
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<td><strong>Master of Fine Arts, a terminal degree</strong></td>
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<td><strong>Kansas Board of Regents have approved this program for implementation beginning fall 1990.</strong></td>
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